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### The Jackson Lecture.<sup>1</sup>

#### FIFTY YEARS OF GENERAL PRACTICE.

By MERVYN S. PATTERSON,  
Ipswich, Queensland.

My earliest impression of Sandford Jackson was his imperturbability—what Osler had called *æquantitas*. On no occasion do I ever recollect seeing him at a loss, no matter what the emergency.

Jackson was a very extraordinary person, and he exerted a considerable influence on those with whom he came into contact—colleagues and subordinates alike. He was Medical Superintendent of the Brisbane Hospital from 1882 to 1898, subsequently a leading surgeon, and twice President of the Queensland Branch of the B.M.A., and he continued to influence medical practice up to the time of his death in 1938.

Although there are still many older men who remember him quite well, each year their number becomes fewer, and it is fitting that the Queensland Branch should commemorate, by this annual Jackson Lecture, the

memory of one who did so much for the practice of medicine in this State. It is fitting, too, that in the terms of the lecture it should be on an historical subject. Every year the older members of the profession are passing on and taking with them much of our early medical history, which should be preserved. With this thought in mind I have prepared this lecture, and if it has too much of the flavour of an autobiography my apology must be that it is largely in this way that history is written.

It is sometimes interesting to speculate why one decided to study medicine. Some of you will have read what Arthur Hertzler, author of "The Horse and Buggy Doctor", says in this regard.

In the passing years I have looked over my classes and wondered why they chose to study Medicine. In many cases there seemed to be no obvious reason. In most students there seems to be a desire to insure themselves through life of a more or less certain supply of bacon and eggs. It was generally believed, moreover, by the laity in our community that all the lawyers and two-thirds of the doctors went to hell. The one-third saved were homeopaths with beards.

Possibly it was sheer coincidence that my own grandfather on my mother's side, the Reverend Benjamin Gilmore Wilson, was not only a homeopath but also had an outsize in beards. His story has been told in part by my son in his "Diary of a Medical Parson", which was published in the Journal some years ago. My grandfather, who came out to Australia in 1858, must have

<sup>1</sup>Delivered at a meeting of the Queensland Branch of the British Medical Association on October 10, 1958.

been a versatile person. He was also, as I have said, a parson, and so visited the sick in a dual capacity. As one of his orthodox doctor friends said of him, he had an unfair advantage: he treated his patients, then prayed for them. It is of interest to recall that the Bancrofts were great friends of his—Joseph, his son Tom, his nephew Peter and their respective families.

After I graduated from Sydney University in 1908 (those were the days of the great Anderson Stuart), I did a short period as locum tenens for the late Kerr Scott, then practising at New Farm. One night I saw a patient surmised to have had a cerebral catastrophe. I remember asking Dr. Peter Bancroft to see the patient in consultation, and he said he thought the patient had had not a stroke but an overdose of morphine. He advised a stomach wash-out. This was done with happy results. Imagine the patient's discomfort, however, some months later when he was taken into the Brisbane Hospital, again with the same symptoms, where he met me (where I was by that time a resident medical officer), and I unhesitatingly gave him another gastric wash-out.

At that time the Brisbane Hospital had at the most 300 beds. The resident medical staff consisted of the Superintendent and four or five other medical officers, so one had a good opportunity to acquire some skill in surgery under the watchful eye of J. B. McLean, the then Superintendent.

Dr. Jackson was at that time in private practice, but was senior surgeon at the Brisbane Hospital and we saw him almost daily.

Members of the honorary staff at this time included Dr. Herbert Hopkins and Dr. R. A. Meek, who were honorary surgeons, Dr. E. Hirschfeld and Dr. F. Page, honorary physicians, Dr. F. Glynn Connolly and Dr. Alec Marks, honorary gynecologists, and Dr. W. F. Taylor, honorary eye, ear, nose and throat surgeon.

Besides Dr. McLean, the Superintendent, contemporaries on the resident staff at the time were Dr. Miller (who subsequently practised in Parramatta), Dr. L. P. Winterbotham, now practising in Annerley and known to most of you, Dr. Walter Heaslop (who practised in Brisbane as a dermatologist up to the time of his death several years ago) and Dr. Gifford Croll (who practised at Sherwood and who is still remembered with affection by many of you).

The secretary of those days was A. P. Payne, a very courtly old gentleman, although somewhat absent-minded. He had two daughters, one of whom Gifford Croll married; the other, Mrs. Clinton, is better known to you as Frank Payne, the artist.

The hospital had no manager in those days, but Brown was the hospital steward. He was also dispenser. Nor did his duties end there, for he was general factotum, and people rang him about all sorts of things. One day one of the sisters, who was off duty and hurrying with her dressing to get into town, found her chest of drawers jammed. She rang Brown and asked his help:

"Please, Mr. Brown, my drawers are stuck."

"Well, sister," said Brown drily, "I suggest a pair of scissors."

I recollect also that Dr. Winterbotham complained to him one day that the croton oil (which in those days was administered on sugar as a cathartic to patients who were hypertensive) was ineffective. Brown disputed this and recommended that Winterbotham take some personally and see. I seem to remember Winterbotham let the matter drop without further research.

Amongst those practising in Brisbane at that time were John Lockhart Gibson, eye surgeon to the Children's Hospital, and Jefferis Turner, children's physician at the same hospital. They were great friends and shared professional rooms, and both are, or should be, remembered for their work in connexion with plumbism in children.

Jefferis Turner was a keen collector of moths and butterflies, and some of you might remember the story he told Gifford Croll.

The other night, Croll, I was on the Roma Street station waiting for my train when I saw a rare moth I had wanted for my collection for a long time. Fortunately I had my butterfly net with me, but the dashed moth flew up into the gas lamp (those were the days before electric light). Well, there was nothing else for it. I had to climb that lamp post. I caught that moth too. But you know when I looked down there was quite a crowd gathered, Croll, quite a crowd.

One can imagine the interest created by the sight of a bearded and spectacled old gentleman climbing a twelve-foot lamp post and making swipes with his butterfly net at passing moths.

There was no laboratory staff at the Brisbane Hospital at that time, and one of the resident medical officers was expected to look after the pathology. This consisted chiefly of blood counts and microscopic examinations of smears and cultures for tuberculosis and diphtheria. It was somewhat elementary when compared with the elaborate pathological and biochemical investigations that are carried out today. There was a consultant pathologist, Jack Mowbray Thomson, who, I recollect, was not often consulted. However, a few sections were fixed and reported on. Dr. Espie Dods was Government Medical Officer at the time and he performed the post-mortem examinations at the hospital.

An interesting investigation on filariasis was carried out during my time at the hospital. Every resident medical officer had to carry out an examination for filaria on two hundred patients consecutively admitted, all of which examinations had to be made between 10 p.m. and midnight, when the worm was to be found in the superficial blood-stream. Between 10% and 15% of all patients admitted gave positive results. Yet few of the patients had any symptoms and elephantiasis was seldom seen. Some patients did get occasional attacks of fever and showed tender glands in the inguinal regions. Chyluria also was not uncommon, and some patients with hydrocele, when operated on, were found to have chylous fluid in the sacs.

Typhoid, of course, was endemic in Brisbane in the early years of this century. With no sewerage and very little control of the earth closets, this is not surprising. It was common to have as many as twenty patients with enteric in the fever wards, and at such times two wardmen were almost fully occupied in lifting these patients in and out of the cold baths that were part of the standard treatment for typhoid patients at the Brisbane Hospital in those days. These baths, which were portable and which were wheeled around the wards, were the idea of Dr. Hare of the hospital. It was claimed that their use had considerably reduced the mortality rate from this disease. Incidentally, this treatment was mentioned in current editions of Osler's "Textbook of Medicine". It seems strange to think that many of the recent generation of doctors might never see a case of typhoid. Inoculation against typhoid was introduced, you will recollect, just before the first World War of 1914-1918, and this was, I think, the most striking discovery in preventive medicine since the introduction of smallpox vaccine.

After serving for fifteen months as resident medical officer at the Brisbane Hospital and feeling, as most of us do at such a time, that one has not much more to learn, I applied for appointment as part-time superintendent of the Aramac Hospital with the right of private practice. Here you were truly on your own. Brisbane was 900 miles away, Rockhampton 300. The nearest towns were Barcaldine, which was 40 miles away, and Murrumbidgee, which was 50, and a trip in either direction was a real journey. Aramac at that time had a population of about 400, and was the centre of good sheep country. It had, however, been unfortunate in its medical services since its doctors, having a lot of spare time, seemed to develop an insatiable thirst and Aramac supported four hotels without difficulty. I think it probably best for a western practitioner to be or to become a strict teetotaler. The proverbial hospitality of the country and station people makes it difficult for the poor doctor to maintain



his sobriety and therefore his being able to be relied upon in a sudden emergency.

I mentioned that travelling by road to Aramac in those days was a real journey. In wet weather the black soil made it impossible, and the town would run out of supplies and we would have to borrow flour from the nearest station homestead.

The hospital of those days was a large wooden bungalow type of building and fairly new. The beds and furniture, however, had mostly been taken from the hospital that had been there previously, and these were old and unsuitable. The staff consisted of a man and his wife. The man performed the duties of wardman; his wife, though untrained, was known as "matron", and she did all the domestic work, including the cooking. I recollect at my first minor operation, the opening of an abscess, "matron" fainted and I had to pick her up. Later I was able to persuade the hospital committee to secure the services of a trained nurse, which made a considerable improvement in efficiency. There was accommodation at the hospital for 12 patients, but the daily average was two to three.

Inevitably a doctor staying too long in such a place would vegetate, and it is essential that provision should be made to allow him to have annual holidays and an opportunity to undertake post-graduate work. Were it an accepted fact that part of the training of each registrar whose ambition was to become a specialist should involve his being sent out to one-man country towns to relieve the part-time superintendents of small hospitals while they took their annual leave or post-graduate refresher courses, not only would the standard of country practice be raised, but also the registrars, when they became specialists, would be better ones because of their experience.

It seems to me that too many young doctors today are acquiring higher degrees by the short cut of intensive study rather than by the long road of practical experience.

The Queensland Faculty of the College of General Practitioners has, I know, been striving for years to have relief afforded men in one-man towns, and it was very pleasing to hear the Minister for Health (Dr. H. W. Noble) say at their annual dinner recently that he intended to implement some such scheme because he recognized how much depended on having skilful, well-trained general practitioners in the country.

While in Aramac I was married, my wife being an ex-sister of the Brisbane Hospital, whom I had met during my resident medical officer days. We were married, I remember, from the home of Dr. Cook of Barcaldine, father of Cecil and Errol Aufrière Cook, whom many of you will know. Old Dr. Cook was a very sound practitioner, though, unfortunately, very deaf. Although Barcaldine was only 40 miles from Aramac I remember him visiting Aramac twice only. He had a morbid fear of being marooned in Aramac should a storm blow up.

After being two to three years at Aramac, I was advised by Gifford Croll to go to the United States to obtain treatment at the Mayo Clinic for a condition of cardiospasm which had given me a good deal of trouble since my undergraduate days.

The Mayo Clinic had already achieved world-wide recognition, and there were patients and doctors there from almost every corner of the earth. Dr. Will Mayo was in Europe while I was there and Dr. "Charlie" Mayo was in control.

The town of Rochester seemed, even then, to be largely owned by the Clinic, and I recollect seeing notices posted in the local hotels requesting guests to refrain from discussing their ailments in the public rooms. The surgeons' club met every afternoon and discussed the cases of patients operated upon that day. I was very struck by the immaturity of many of the visiting physicians and surgeons who asked questions that an Australian third year student would not have asked. This fact, however, underlined the great disparity that existed in the United States at that time between the best medical schools and some of the others.

The Clinic was run on very strict business principles, and the bill was made out to patients on a fairly accurate calculation of their income. This sliding scale, I was informed, had been worked out to the last decimal point. On the other hand, many patients were treated for relatively small fees.

My cardiospasm was considerably relieved by treatment with hydrostatic dilators by Dr. H. S. Plummer of the Plummer-Vinson syndrome, and I went on to London and spent some time at the Moorfields Ophthalmic Hospital and the Golden Square Ear, Nose and Throat Hospital. The clinics at both these hospitals were first class at that time.

Returning thence to Aramac I felt that to stay any longer there would be to vegetate, so, handing over the practice and the hospital appointment to my locum, I moved to Ipswich and commenced practice in partnership with an uncle, the late Dr. Roderick Macdonald, at the beginning of 1913.

Ipswich, although the centre of a large farming district, was even then becoming an industrial town. Consultation fees were five shillings. Confinements were two or three guineas, depending on whether or not you arrived in time to give the mother some chloroform. Probably the majority of confinements were in the patients' homes carried out with the assistance of a visiting midwife, who often had unorthodox views on asepsis. One colleague, on asking for water in which to wash his hands, had it provided in an earthenware chamber. Later, when he asked for some tape to tie the umbilical cord, the midwife pulled out some stout thread which she had conveniently held in her few remaining teeth for the occasion. All midwives were not like that, of course, but gradually within the next 20 years it became more and more common for women to go to hospital to have their babies. With the second World War the practice became universal, and since about 1940 I have not confined any women in their own homes. It is interesting to read that the pendulum may soon swing back again and that domiciliary midwifery may again be the usual thing.

When I commenced practice in Ipswich lodge practice formed a great part of one's work. The capitation fee paid the doctor for a family unit was £1, and it entailed a fair amount of visiting. Confinements, operations and anaesthetics fortunately were regarded as extras. I found lodge patients fairly considerate on the whole, and lodge practice filled a definite need for patients in the low income group. In those days the incomes of those accepted for lodge membership was supposed not to exceed £350; it was later raised to £500. It was never stringently enforced, however, and on occasions one was irritated to find one was looking after, for an annual capitation fee of £1, a lodge patient whose income exceeded one's own. With the great general increase in wages which followed the second World War, lodge practice became an anomaly, and lodges now function as medical benefit organizations.

Ipswich practitioners in 1913 were mostly overseas graduates. Dr. Roderick Macdonald, Dr. Dunlop and Dr. Elmslie Brown were from Scottish medical schools; Dr. J. A. Cameron, although he had been born and gone to school in Ipswich, where his father was headmaster of the Ipswich Grammar School, had graduated from Cambridge; Dr. John Flynn, the Government Medical Officer, had qualified, I think, in Dublin; Dr. Philip Thornton, Medical Superintendent of the Ipswich Hospital, was trained in London, where, he used to relate, he had been a contemporary of the famous Dr. Barnado. Dr. Standish Lightoller, Dr. Basil Hart and I were the only Australian graduates and were all from Sydney University. Intra-professional relationships in those days were not of the most cordial kind, and there was a good deal of jealousy.

Then came the first World War; Dr. Macdonald, Dr. Hart and Dr. Brown went overseas, and those of us whose lot it was to remain looked after their private and lodge patients. The fact that on their return their practices were handed back to them intact did much, I think, to improve relations, and soon after the war the local medical

association was formed, with Dr. J. A. Cameron as its first president, and it has continued actively ever since.

I think it would be fitting to record here the profound influence for good that the late Dr. J. A. Cameron exerted on this association. He was one of the kindest and most modest of men and always ready to advise or help a younger colleague. Our profession can do with many such.

There was another practitioner of this era who exerted a great influence. Older practitioners will recall the Enoggera Military Hospital, subsequently burned down, through which passed so many Diggers returned from the first World War. It was here and at Rosemount Hospital that the late G. P. Dixon was visiting surgeon and where he did the outstanding work for which he will always be remembered.

Immediately after the war we were struck by the influenza epidemic, in which Dr. Flynn, the Medical Officer of Health, died, and I was appointed to his position. At that time diphtheria took a tremendous toll amongst children, and I recollect there being 230 cases reported in one year. In 1926 the Ipswich City Council commenced the large-scale immunization of children against the disease. The campaign was viewed with mistrust by many parents, and the unfortunate mass fatality that occurred in Bundaberg increased this mistrust. In so far as the treatment of diphtheria was concerned, it was the practice to administer what would nowadays be considered small doses of about 2000 to 4000 units of antitoxin.

After the first war there was a great increase of interest in the holding of clinical evenings, and besides the meetings of the Ipswich association I recollect frequently attending meetings in Brisbane, particularly with Dr. J. A. Cameron, who was a frequent attendee. The road to Brisbane right up to the mid-nineteen-twenties was appalling, and I shall never forget a drive returning from Brisbane with Dr. Cameron on an icy winter's night in his "F.N.," which besides being an open single seater was also without a windscreen.

There will be some here tonight who will remember an epic dinner given about 1920 by old Dr. Sirois of Marburg. Dr. Sirois, a French Canadian who had qualified in both medicine and dentistry, had a large practice amongst the German farming community of the Marburg district in which he lived. Excluded from membership of the B.M.A. for many years on account of his Canadian diploma, which had not reciprocity with Australia, he was at last admitted. To celebrate the event he invited members of the B.M.A. Council and all the Ipswich practitioners to a dinner. The dinner was most lavish, and will be long remembered by those who were present. A number of Dr. Sirois's patients prepared the dinner and waited on us. Afterwards, Dr. Sirois gave an address on the ideal practice, many of his ideas on which are today embodied in the modern group practice. The old doctor continued in practice up to the time of his death about 10 years ago. He was then 93 years of age.

During the twenties I was elected to the B.M.A. Council, on which I served for some 15 years with a break of some years. It was at that time that the idea of a nationalized medical service was first proposed, and the scheme was bitterly opposed by members of the profession.

Members on the Council those days included T. A. Price, Toowoomba, Val McDowall, W. N. Robertson, Gifford Croll, S. F. McDonald, Alec Murphy, E. S. Meyers, Eustace Russell, Bill Nye and D. E. Trumpy of Ipswich, and later, L. P. Winterbotham, Frank Lukin, John Wagner, Harold Horn, Alan Lee and Graham and Neville Sutton.

When I first joined the Council, meetings were held in the B.M.A. building in Adelaide Street. Later we moved to the old wooden building on Wickham Terrace, which served as our headquarters up to 1957 when the new B.M.A. House was acquired and which is at last a worthy home for the Association in Queensland.

During my lifetime I have seen astonishing progress in medicine. Lord Horder, in an address some years ago, said he remembered Osler coming excitedly into his room

after returning from Rome, where he had just seen the first demonstration of the spirochaete in the lesions of syphilis.

Yet think of just a few of the things that have happened since then: the discovery of radium and the development of X rays, the recognition and synthesis of the vitamins and the sex hormones, the discovery of insulin, the control of diphtheria, tuberculosis and now poliomyelitis, the synthesis during the last war of the antimalarial drugs (which played a major part in our victory), the discovery of the sulphonamides and the whole legion of antibiotics, the development and use of blood transfusion and anesthetic techniques, and the development of neurology and cardiology, bringing with them the almost unbelievable achievements in thoracic surgery and neurosurgery.

In general practice there is none of the glamour that surrounds these newer specialties. There is much that is routine and humdrum. We are each of us conducting our practices in our own individual ways, and I feel it is best that we should continue to preserve this individuality.

There is so much of the personal relationship in general practice that I sometimes wonder whether the old single-handed practice was not, in reality, the best sort of practice. True it was a tie that left little real freedom for the doctor. Yet nowadays, at any rate in large group practices, I suspect something has been lost.

Dr. Talbot Rogers, when he was in Queensland several years ago and spoke at our annual meeting, put it very well:

Let me state what it is, I feel, that general practice holds that makes it satisfying to me. I think it is the opportunity it gives for doing things in my own way for my own patients and for going on doing so, not at one special time but through all their illnesses and tribulations, getting to know them and their families, their homes and their jobs, their habits and their fads—in fact being their family doctor. I want to do as much as I can for them myself, but I realize that to do so I need a variety of help, help which can extend my usefulness to them. Finally, when they are beyond help I still want to offer what solace I may to them and to those who care for them.

I have been in practice for fifty years, and for almost all of those I have worked as a general practitioner amongst the people of an industrial town and amongst the farming community on its outskirts. Financially it has not been particularly rewarding, for many of our patients have been poor or of very moderate means. But it has been rewarding in other ways, for a strong bond is forged between doctor and patient during the course of such a long practice. Living, moreover, in a provincial town, one has a stake in the life of a community that one seldom has when one lives in a large city. And were I at the outset of my career and had my chance over again, my choice, I think, would be the same.

#### FLUOXYMESTERONE ("HALOTESTIN"): A NEW ANDROGEN.

By BRYAN HUDSON, M.D., Ph.D. (Melb.), M.R.C.P., F.R.A.C.P.,

From the Diabetic and Metabolic Unit,  
Alfred Hospital, Melbourne.

THE synthesis of 9 $\alpha$ -fluoro-11 $\beta$ -hydroxy-17 $\alpha$ -methyl testosterone (Figure 1) was described by Herr *et alii* in 1956. Initial studies with this compound indicated that its androgenic properties were greater than those of methyl testosterone (Lyster *et alii*, 1956); and when administered orally it was effective in the treatment of male patients with hypogonadism and of certain patients with advanced breast cancer (Gordan, 1956; Field, 1957; Kennedy, 1957).

The purpose of this preliminary report is to give an account of experiences with this drug in three groups



of patients: women with metastases from breast cancer, patients with osteoporosis and men with hypogonadism.

#### Materials and Methods.

Twenty-five patients with metastases from breast cancer, nine patients with osteoporosis (seven females with post-menopausal osteoporosis and two with osteoporosis complicating prolonged therapy with corticosteroids) and five male patients with hypogonadism have received treatment with fluoxymesterone.

Mastectomy had been performed months or years previously on all the patients with breast cancer and the diagnosis confirmed by histological examination. Their ages ranged from 31 to 66 years. In all but three of these patients the indication for hormone therapy was pain associated with osseous metastases. In the remaining three treatment was instituted because of symptoms associated with skin nodules or pressure from lymph node metastases.

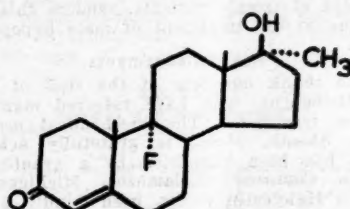


FIGURE I.  
Fluoxymesterone ("Halotestin").

The daily output of urinary calcium was measured in eight of the patients with bony metastases from breast cancer by the method of Tisdall and Kramer (1921). 17-hydroxy-corticoids were estimated by the method of Reddy (1954), and 17-ketosteroids by the method of Sheath (1959).

The patients with osteoporosis sought treatment because of pain, which was usually localized to the back, but in some it was also of root distribution. The diagnosis was made by the finding of radiological decrease in bone density and the failure to demonstrate any abnormality in calcium metabolism or defect in renal function.

Hypogonadism in the male patients resulted from a variety of causes: from hypopituitarism due to local lesions, from isolated gonadotrophic failure (two patients) and from primary testicular lesions. The diagnosis in each instance was made by clinical examination and a combination of conventional X-ray and laboratory procedures, including, in most cases, testicular biopsy.

#### Results.

##### Metastases from Breast Cancer.

The response to treatment with "Halotestin" was regarded as satisfactory in 17 of the 25 patients with metastases from breast cancer. This was assessed principally by the relief of symptoms (mainly pain), but also by the correction of anaemia when this was present (6 of 10 patients), by a reduction in the size of superficial metastatic lesions (3 of 5 patients) or by the recalcification of bony lesions (7 of 16 patients). In others, although there was no clear improvement in the bony lesions present, these appeared to remain unchanged in the early weeks of treatment. In five out of six cases of hypercalcaemia, there was a conspicuous fall in the daily urinary excretion of calcium (Figure II).

To every patient the hormone was administered orally in three or four divided doses each day. The minimum daily dose to produce relief was 10 mg. and the maximum 30 mg. Of the eight patients who failed to respond to fluoxymesterone, five had passed the menopause and showed no response to doses of up to 35 mg. per day.

The duration of therapeutic relief varied from patient to patient, the shortest response being nine weeks and the longest 13 months. In every instance, apart from three patients still under treatment, reactivation of the disease eventually occurred and fresh lesions have developed.

At the dose levels used, the side effects of treatment were minimal. Nausea was noted in four cases, but did not require cessation of treatment. Virilizing effects were noted in only three cases and were minimal, consisting of a slight increase in hair on the upper lip and some huskiness of the voice. Each of these patients

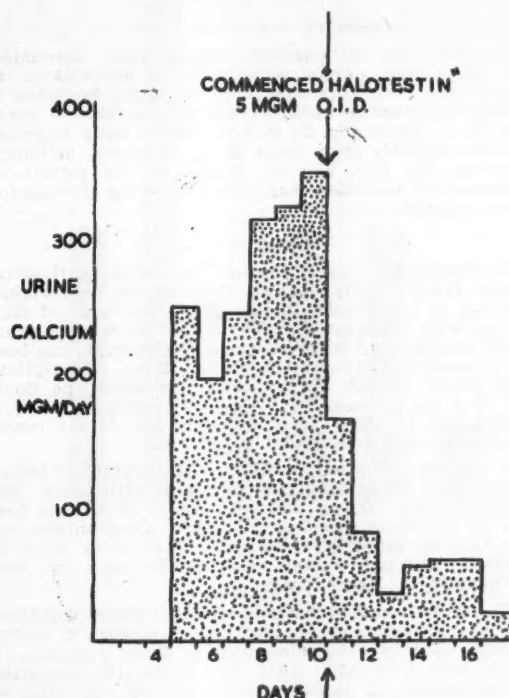


FIGURE II.  
Calcium excreted in the urine per day.

had received 30 mg. per day for more than four months. Two patients previously treated with testosterone propionate in doses of 150 and 250 mg. per week showed distinct features of virilization. When fluoxymesterone was substituted, relief of symptoms persisted, but the signs of virilization lessened. No patient in this series showed any abnormal gain in weight, rise in blood pressure or clinical oedema during treatment.

##### Osteoporosis.

The response to treatment was satisfactory by six of seven patients with osteoporosis. Not only was there relief of pain, but also an increased feeling of well-being. No significant changes were noted in spinal X-ray films after 18 months' treatment. The average dose required for relief was 7.5 mg. per day. Two patients needed 12.5 mg. per day, and one patient failed to respond after receiving 20 mg. per day. Two patients with osteoporosis complicating prolonged corticosteroid therapy obtained satisfactory relief of symptoms with 10 mg. per day, and there was an apparent arrest in the osteoporotic process despite continued treatment with corticosteroids. Two patients have received continuous treatment (10 mg. per day) for 18 months without untoward side effects.

### Hypogonadism.

The effects of fluoxymesterone on the group of patients with hypogonadism were less satisfactory. Although there was commonly a gain in muscle strength, weight and well-being, the androgenic properties appeared weaker. Thus, two patients receiving doses up to 15 mg. per day have shown little change in the growth of the beard or development of the larynx and only minimal changes in the genitalia and pubic hair. In another patient genital development has been satisfactory, but the influence on libido, facial hair and voice has been slight. Thus, there is possibly a dissociation between the anabolic and androgenic effects of this drug.

### Studies on Steroid Excretion.

In seven cases of metastatic breast cancer, determinations of urinary steroid excretion were undertaken. In no case was there any change in the daily excretion of 17-hydroxycorticoids when studied over periods of seven to 12 days. There was no increase in the daily excretion of 17-ketosteroids after doses of up to 30 mg. of fluoxymesterone per day, and no change in the pattern of 17-ketosteroid excretion was observed during the administration of this compound.

### Discussion.

The therapeutic role of testosterone and its derivatives is now fairly clearly defined. Testosterone is certainly indicated as substitution therapy in many cases of male patients with hypogonadism. The usefulness of these drugs in the treatment of post-menopausal osteoporosis has been amply confirmed since Albright's original descriptions (Reifenstein et alii, 1942); and there seems no doubt that they are efficacious in relieving symptoms and prolonging life in many cases of metastatic breast cancer (Nathanson and Kelly, 1952).

In the last two groups, which consist mainly of female patients, the displeasing side effects of virilization with hirsuties, voice changes and enlargement of clitoris have been a persistent problem. Another disadvantage has been that all esters of testosterone have to be given by injection, although methyl testosterone may be used sublingually in larger doses.

The results reported for this series of patients indicate that the introduction of this new analogue of methyl testosterone may overcome many of these problems. It seems clear from this study that while the properties of suppression of cancer growth and of anti-catabolic or anabolic action in osteoporosis are preserved, there is a lessening of the undesirable side effects of excessive androgenic action. An enhancement of the former action, but not of the latter, is a desirable combination of properties, which should make the drug of value in the treatment of female patients with disseminated cancer or osteoporosis.

The dissociation of properties in this synthetic analogue is well demonstrated by the response of male patients with hypogonadism. Most patients have gained weight, well-being and muscle power after treatment, but the desired development of secondary sexual characteristics has been irregular and disappointing. It is thus unlikely that the drug will be of value in the treatment of male hypogonadism. This experience is in contrast to that of Gordan (1956), who observed full androgenic effects with doses as small as 2 mg. per day in 10 hypogonadal male patients. Eight of these patients, however, had received previous treatment with methyl testosterone or testosterone esters, so that secondary sexual development had presumably occurred prior to the use of fluoxymesterone.

On theoretical grounds it seemed possible that the combination of a fluorine atom at the 9 $\alpha$  position and a hydroxyl group at 11 might endow this compound with slight mineralo-corticoid activity, but in no case was hypertension or fluid retention observed. Nor does this compound appear to suppress endogenous adrenocortical activity as judged by measurements of steroid excretion.

The observations in these cases do not permit an evaluation of the potency of this compound as compared with methyl testosterone or testosterone propionate. It was originally suggested, on the basis of animal experiments (Lyster et alii, 1956), that fluoxymesterone was 20 to 25 times as potent as methyl testosterone. From a study on patients with metastatic breast carcinoma, Kennedy (1957) concluded that this compound is at least as effective as testosterone propionate and probably five times as potent as methyl testosterone.

### Summary and Conclusions.

Experience with a new synthetic analogue of methyl testosterone (9 $\alpha$ -fluoro-11 $\beta$ -hydroxy-17 $\alpha$ -methyl testosterone) is described.

Patients with metastatic breast cancer and post-menopausal or steroid-induced osteoporosis have responded favourably to treatment. Virilizing side effects are much less than with other testosterone compounds.

The weak androgenic activity, while an advantage in the treatment of female patients, renders this compound of less value in the treatment of male hypogonadism.

### Acknowledgements.

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### A REPORT OF SOME THERAPEUTIC TRIALS.<sup>1</sup>

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In this paper a number of drug trials are reported, the results of which have not hitherto been published.

### Hypertension.

In severe degrees of hypertension it is desirable to effect a reduction of blood pressure before renal function becomes seriously impaired. This is generally accomplished by centrally-acting drugs, such as hydralazine, or by the use

<sup>1</sup>Based on a paper read before the Queensland Branch of the B.M.A., March 6, 1959.



of one of the ganglion-blocking agents. On the other hand, patients with a mild degree of labile hypertension often require no treatment other than sedation. Occupying an intermediate position, hypertensive patients are encountered who derive benefit from treatment with one of the milder hypotensive agents.

In a study of these treatment groups, results were measured by the arbitrary method of estimating the mean arterial pressure  $\frac{2}{3}$  (Systolic B.P. + Diastolic B.P.) and by

calculating the percentage reduction of this mean after treatment. A reduction of 20% or more was regarded as significant.

#### Mild Hypertension.

In the group of patients with mild hypertension, phenobarbitone and various alkaloids of *Rauwolfia serpentina* were employed. The results are summarized in Table I. Since the dosage response of the rauwolfia preparations is generally a "flat" curve (Winsor, 1953), dosage did not exceed 4 mg. of the alkaloidal extract or 1 mg. of reserpine per day. No important side effects were encountered in this series of cases.

TABLE I.  
Treatment of Mild Hypertension.

Drug.	Number of Cases.	Average Percentage Reduction of Mean Arterial Pressure.	Number of Cases with Mean Arterial Pressure Reduction of 20% or More.
Phenobarbitone ..	30	14	7
Alkaloidal extract of <i>Rauwolfia</i> ..	20	20	9
Reserpine ..	20	18	8
Rescinnamine ..	20	17	7

#### Severe Hypertension.

Eighty-two patients with severe hypertension were treated with a combination of a centrally-acting, or ganglion-blocking hypotensive agent, and a preparation containing the hypotensive alkaloids of *Rauwolfia serpentina*. The results obtained are compared in Table II.

TABLE II.  
Treatment of Severe Hypertension with Various Drugs (all given with an Alkaloidal Extract of *Rauwolfia Serpentina*).

Drug.	Number of Cases.	Number of Cases with Mean Arterial Pressure Reduction of 20% or More.
Pentolinum ("Ansolyse") ..	23	16
Veratrum ("Veriloid") ..	20	10
Hydrallazine ("Aprosoline") ..	12	7
Mecamylamine ("Mevazine") ..	17	14
Pempidine ("Perolyse") ..	12	11

The results of hydrallazine therapy are weighted by the fact that because of the side effects and toxic reactions of this drug (Moyer, 1953; Kaufman, 1953; Schroeder, 1954) the use of hydrallazine was restricted to patients who were unable to tolerate ganglion-blocking preparations. This was usually because of impaired renal function; in such instances hydrallazine is possibly the drug of choice.

Pempidine, a recently introduced ganglion-blocking drug, has been found to be an effective hypotensive agent (Harrington, Kincaid-Smith and Milne, 1958). In Figure I its hypotensive action is compared with that of mecamylamine. Because of individual susceptibility, however, it was difficult to estimate the dose of pempidine required to reproduce the hypotensive effect of a known dose of mecamylamine. Careful titration of dosage against blood pressure response is therefore necessary when changing from one drug to the other. Experience suggested that a

safe course to adopt is to substitute 2.5 mg. of pempidine for 5 mg. of mecamylamine every second day until conversion is completed. Thereafter, gradual increments of pempidine can be made if necessary.

In most of our cases a significant reduction of blood pressure was achieved by pempidine in doses varying from 5 to 10 mg. daily; only one patient required a dose in excess of 20 mg. daily.

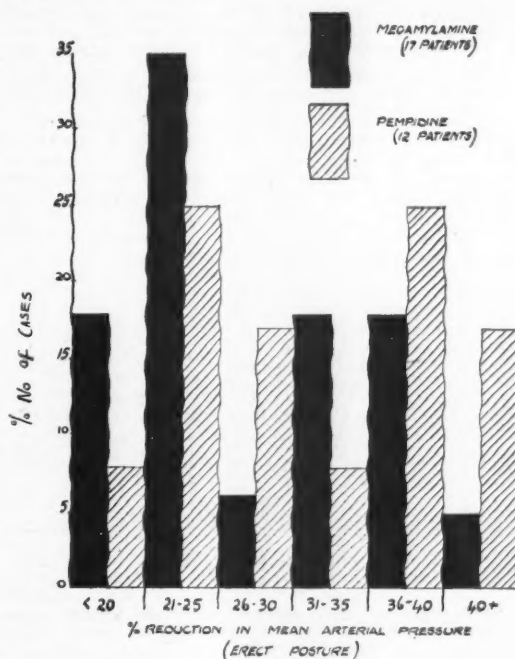


FIGURE I.  
Hypotensive effect of mecamylamine and pempidine.

Particular caution is necessary in treating cases with markedly impaired renal function. However, as shown in Figure II, cases of malignant hypertension may respond well to small doses of the drug.

The side effects of mecamylamine and pempidine are similar. The occurrence of neuro-psychiatric symptoms in a patient treated with mecamylamine has been reported by Murphy and Sutherland (1959), and similar cases have been reported from America (Schneekloth *et al*, 1956) and Britain (Harrington and Kincaid-Smith, 1958). In the case referred to, pempidine was subsequently employed in full dosage without ill effects. In a small number of cases a combination of reserpine and chlorothiazide has been used with effect; Figure III illustrates such a case.

#### Toxaemia of Pregnancy.

Chlorothiazide is a valuable saluretic and diuretic drug (Ford *et al*, 1958; Bayliss *et al*, 1958; Marshall, 1958); it is also a hypotensive agent (Fries and Wilson, 1957; Wilkins *et al*, 1958; Hall and Owen, 1959). This combined diuretic and hypotensive action suggested its use in the treatment of preeclamptic toxæmia, a condition characterized by salt and fluid retention and by elevation of blood pressure. Its use in this condition has been reported by Finnerty *et al* (1958) and by Assali *et al* (1958).

Chlorothiazide was employed for 17 patients suffering from preeclamptic toxæmia, the duration of treatment being 7 to 40 days (average 25.3 days). The results of this trial are summarized in Table III.

Best (1957) listed the objects of treatment in pre-eclampsia as being the prevention of eclampsia, the pre-

vention or reduction in the incidence of damage to the maternal vascular system, and the securing of a live infant of sufficient maturity to survive its delivery. In

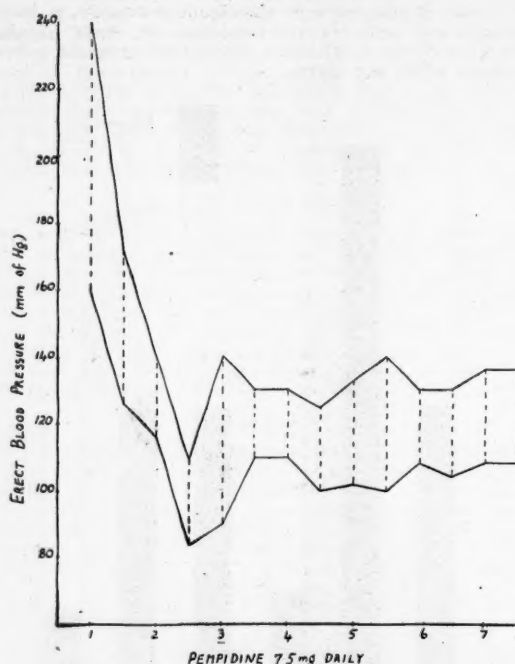


FIGURE II.

Blood pressure (erect posture) in a male patient, aged 48 years, with malignant hypertension treated with pempidine.

this group of patients none developed eclampsia, and all patients were delivered of live, healthy infants. With the exception of one patient, who had a preexisting nephrotic

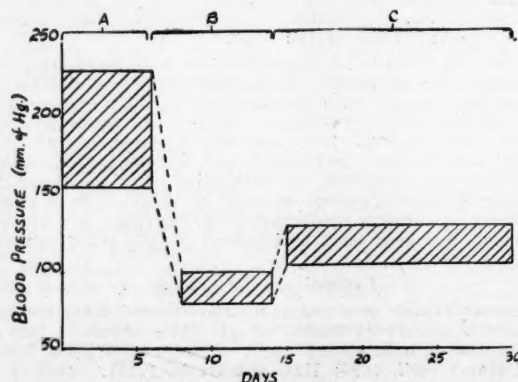


FIGURE III.

Blood pressure response (erect posture) in a male patient with renal hypertension (lead poisoning), papilloedema and albuminuria treated with pempidine and with chlorothiazide plus reserpine. A, before treatment; B, pempidine, 5 mg. daily; C, chlorothiazide, 2 grammes, plus reserpine, 0.75 mg. daily.

syndrome, post-natal examination showed no clinical evidence of maternal vascular damage.

During the course of treatment the patient with the coexisting nephrotic syndrome developed a low salt syndrome. Otherwise no important side effects were

encountered. Although the most satisfactory dose was found to be two grammes of chlorothiazide daily, biochemical studies performed twice weekly showed no evidence of the development of hypochloræmia or hypokalemia. This might be referable to the fact that the routine hospital low-salt diet did not drastically curtail sodium chloride, and throughout the trial potassium supplements were given.

It is of interest that although the mean blood urea level at the commencement of therapy was 23.8 mg. per 100 ml., it rose to a mean of 33.4 mg. per 100 ml. before delivery. Dieckmann (1952) considers that normally the average blood urea level at term is 26 mg. per 100 ml. and in preeclampsia 31 mg. per 100 ml. It is possible, therefore, that although occasioning symptomatic benefit and conferring some protection, chlorothiazide does not materially influence the disease process in preeclamptic toxæmia.

TABLE III.  
Chlorothiazide in Pre-eclamptic Toxæmia.

Result.	Number of Cases.
Satisfactory:	
Spontaneous labour at term .. .. .	8
Induced labour at or about term .. .. .	5
Cæsarean section after satisfactory response <sup>1</sup> .. .. .	2
Poor:	
Cæsarean section after failure of therapy .. .. .	1
No response to therapy .. .. .	1
Total .. .. .	17

<sup>1</sup> Operation performed for persistent occipito-posterior presentation in one case; for a disproportionately large fetus in the other.

#### Non-Barbiturate Sedation.

First synthesized in 1869, chloral hydrate is an inexpensive and effective hypnotic. Because of its hygroscopic nature, chloral must be prescribed as a mixture, and its principal disadvantage is its nauseating taste and a tendency to produce gastric irritation.

Recently chloral has been combined with 2-methylpentan-2,4-diol to form a non-hygroscopic tablet.

A pilot trial has been carried out employing this compound as an hypnotic in children. It was found to be effective, two tablets of the compound having an hypnotic effect similar to 20 grains of chloral. No side effects were encountered. Its use for adults will be the subject of a controlled trial by one of my colleagues.

#### Parkinsonism.

The medical treatment of Parkinsonism has been overshadowed by recent surgical techniques. Drug therapy, however, remains important since not all patients require, or are suitable for, operation, and in some instances drugs are of benefit post-operatively.

In Table IV certain commonly employed preparations are listed. During the past 18 months, 38 patients with Parkinsonism have been treated with various combinations of these drugs. The following comments are clinical impressions gained during this time rather than the results of a controlled trial.

"Artane" and "Pagitane" were found to be equally effective, but the latter showed much less tendency to produce mental confusion and an inability to concentrate—side effects which proved troublesome, particularly in elderly patients treated with "Artane". Orphenadrine ("Dispal" and "Myophane") is an analogue of diphenhydramine ("Benadryl") with, however, enhanced anti-acetyl choline activity and minimal antihistamine effect. Used alone, orphenadrine is of value in arteriosclerotic Parkinsonism; it is, however, particularly helpful as an adjuvant to other drugs. "Cogentin" is related chemically to both atropine and phenhydramine. This drug has a prolonged action,



and since it tends to be cumulative, caution is required in its use. "Cogentin" has been the most effective drug in the control of tremor.

One of the principles of medical therapy in Parkinsonism is that dosage should be gradually increased to the limits of tolerance; another is that a combination of two drugs is usually more effective and less likely to cause side effects than either drug given singly. In this series the following combinations were found to be of particular value: (a) "Pagitane", and "Disipal" or "Myophane", each given three times daily; (b) "Cogentin" at night; "Lysivane" or "Pagitane" twice or three times daily; (c) "Lysivane", and "Disipal" or "Myophane", each given three times daily.

TABLE IV.  
Drugs Used in the Treatment of Parkinsonism.

Group.	Examples.	Tablet. (mg.)
I. Solanaceous alkaloids ..	Hyoscyne. Stramonium. Belladonna.	— — —
II. Synthetic atropine-like drugs	"Parpanit." "Artane." "Kemadrin." "Pagitane."	20 2 5 5
III. Antihistamine derivatives ..	"Benadryl." "Disipal" "Myophane". "Lysivane."	50 50 50
IV. Others .. .. .	"Cogentin."	2

#### Epilepsy.

Table V indicates some of the preparations commonly employed in the treatment of epilepsy. With adequate therapy, control of epilepsy can be achieved in about 50% of cases and a further one-third are improved (Yahr *et alii*, 1952). In some 10% to 15% of cases control is inadequate.

TABLE V.  
Preparations Used in Epilepsy.

Type of Epilepsy.	Drugs Used.	Tablet.
I. Grand mal.	Barbiturates: Phenobarbitone .. .. Methyl phenobarbitone .. The hydantoin: "Dilantin" .. .. "Mesontoin" .. .. "Peganone" .. .. Primidone: "Mysoline" .. ..	0.5 grain 1 grain 0.1 gramme 0.1 gramme 250 mg. 0.25 gramme
II. Petit mal.	Dione: "Tridione" .. .. "Paradione" .. .. "Mallidone" .. .. Carbonic anhydrase inhibitor: "Diamox" .. .. Phenoximidine: "Milontin" .. .. Others: Amphetamine .. .. Caffeine .. .. Mepacrine .. .. Phenurone .. ..	0.3 gramme 0.3 gramme 0.1 gramme 250 mg. 0.5 gramme 5 mg. 5 grains 100 mg. 0.5 gramme
III. Psychomotor.	Phenurone .. ..	0.5 gramme

The introduction of acetazolesamide ("Diamox") offered a fresh approach to the problem. Theoretically, this drug should inhibit the action of carbonic anhydrase in cerebral tissues and thus occasion an increase in the concentration of carbon dioxide and a change in local cellular environment. In practice, some workers have found acetazolesamide to be of value in epilepsy (e.g., Merlis, 1954; Ansell and Clarke, 1956; Minde, Garrett and Cruise, 1957); others (e.g., Ross, 1958) have found it to have little effect.

Acetazolesamide was employed in three groups of patients.

Group I consisted of 13 patients confined to a mental hospital. They comprised 21% of the total epileptic population of the hospital and their epilepsy could not be controlled by the usual anti-epileptic drugs. Many of

these patients had both major and minor seizures. They were given acetazolesamide in addition to existing drug therapy, a double-blind technique being employed with cross-over at intervals of four weeks.

Group II comprised 16 children suffering from *petit mal* who were poorly controlled by "Tridione" or "Paradione". They were given acetazolesamide in addition to the existing therapy.

Group III consisted of 10 children suffering from *petit mal* who had not previously had any drug therapy. They were treated with acetazolesamide alone.

The dose of acetazolesamide used was 250 mg. two or three times daily, for five days per week.

The results of this trial are summarized in Table VI. In Group I, the seizures were charted on a specially constructed score card by the nursing staff, and it emerged that acetazolesamide reduced the frequency of minor seizures by almost 90% and major seizures by some 50%. In the two out-patient groups, accurate charting of seizures was not found possible, and results were based largely on the parents' assessment.

TABLE VI.  
Acetazolesamide in Epilepsy.

Group.	Number of Cases.	Response.		
		Good.	Improved.	No Response.
I	13	12	—	1
II	16	5	4	7
III	10	4	2	4

The results of the trial indicate that over 50% of epileptics suffering from *petit mal* derived benefit from acetazolesamide used alone or in combination with other drugs. Major epilepsy is probably less responsive. The most significant improvement occurred in children whose electroencephalogram showed increased dysrhythmia on hyperventilation.

#### Gastro-Intestinal Haemorrhage and Occult Bleeding following Salicylate Therapy.

In 1943, the late Sir Arthur Hurst suggested that aspirin haematemesis accounted for 15% to 20% of all cases (Hurst, 1943). The work of Muir and Cossar (1955), and of Alvarez and Summerskill (1958), furnishes support for this view, and emphasizes the risk of haemorrhage occurring as a result of aspirin therapy in cases of peptic ulceration.

The introduction of N-acetyl-p-aminophenol ("Panadol") suggested a possible alternative to aspirin for patients with peptic ulcer who required a mild analgesic.

This drug was employed in six cases of duodenal ulceration in which results to the faecal occult blood test had become positive whilst aspirin was being taken. In this experiment the Gregersen benzidine test, as modified by Needham and Simpson (1952), was employed. After the result of the occult blood test had become negative, "Panadol" was given in divided doses of three grammes per day for three weeks. During this period faecal occult blood tests were performed twice weekly. In only one instance did the result of the test again become positive. No other side effects were encountered, and Spalton (1956) has commented on the safety of this drug.

It is believed that patients with peptic ulcer should be warned against taking aspirin. If an analgesic is required in such cases, N-acetyl-p-aminophenol is a useful alternative.

#### Summary.

An account is given of drug trials in hypertension, toxæmia of pregnancy, epilepsy and Parkinsonism. Experience with a non-barbiturate sedative and a non-salicylate analgesic is reported.

## Acknowledgements.

It is a pleasure to thank various colleagues who gave help in these trials. In particular my thanks are due to Dr. J. Ronald and Dr. R. F. Caddell, Inverness, Scotland, to Professor J. H. Tyrer and Dr. A. W. Steinbeck, Medical Professorial Unit, Brisbane Hospital, and to the obstetricians of the Brisbane Women's Hospital. Biochemical studies in the chlorothiazide trial were carried out by Mrs. E. Schubert, B.Sc., and those in the acetazolamide trial by Miss G. H. Martin, B.Sc.

The following drug houses furnished me with generous supplies of their products: Riker Laboratories ("Rawiloid" and the individual alkaloids, reserpine and rescinnamine); May and Baker (Pharmaceuticals) Ltd. ("Perolysen"); Merck Sharp and Dohme ("Chlotride"); Lederle Laboratories ("Diamox"); Andrews Laboratories ("Mecoral"); Bayer Products, England ("Panadol").

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## EXPLOSIVE OR EPISODIC BEHAVIOUR DISORDERS IN CHILDREN AS EPILEPTIC EQUIVALENTS.

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THIS paper is presented by the author as a personal expression of opinion, in an endeavour to recognize such disorders as epileptic equivalents.

The explosive or episodic behaviour disorders of childhood have commanded considerable attention over the past decade. Widespread use of the electroencephalograph has highlighted the numerous analyses of this group of children. With this new interest has come confusion. In relation to these disorders the terms "psychomotor epilepsy" and "epileptic equivalents" have been used by different authors as if they were synonymous and equally applicable descriptive terms. Clinically, the two terms are not synonymous and, from the electroencephalographic point of view, they are distinct. The former (psychomotor epilepsy) is commonly associated with an anterior temporal spike focus (Gibbs and Gibbs, "Atlas of Electroencephalography"), and the latter (which I shall try to emphasize in my paper) with a temporal lobe focus in either the mid or the posterior areas of the lobe.

As stated by Zimmerman (1956), and with which there is general agreement, there are two general varieties of the behaviour disorder patterns in childhood. First there are the behaviour disorders of the psychogenic type, in which are presented problems associated with environmental factors, parental factors, background stresses, severe spoiling and sibling rivalry, etc. These are the every-day difficulties, and demand a psychotherapeutic approach to the child and his parents. Secondly, there is a group of children who do not respond to psychotherapy and who, upon analysis, have certain characteristics in common which set them apart from the first group. This group is a syndrome apart—the explosive or episodic behaviour disorders of childhood—and probably represents a disorder of organic origin.

Broadly, the clinical characteristics of, or the descriptive terms applied to, such episodes include the following: (i) episodic and violent outbursts of impulsive behaviour; (ii) a paroxysmal quality of anomalous behaviour embedded in a matrix of generally bad behaviour (Zimmerman, 1956); (iii) unbridled aggressiveness (Hill, 1952); (iv) uncontrollable rages or temper tantrums; (v) unpredictable attacks of boisterousness and bizarre turns of behaviour; (vi) bursts of bad behaviour accompanied by incredible rudeness and perversity; (vii) compulsive behaviour; (viii) lapses of behaviour with amnesia for the episode. It is in this group that there is no clear psychogenesis, and arguments have swayed back and forth as to the organicity or otherwise of this syndrome.

It is well recognized that abnormal electroencephalograms are common among children and adolescents with disordered behaviour and social maladjustments. Jones, Bagghi and Waggoner (1955), in a review of the electroencephalographic records of 390 such children, report an incidence of 12% with focal abnormalities and some 60% to 80% with diffuse abnormalities. Miller and Lennox (1948) in a series of 160 such children reviewed, report an incidence of 35% with abnormal electroencephalograms. These reported electroencephalographic abnormalities are not always specific, but it is in this special group of truly explosive disorders that the percentage of abnormal electroencephalograms may be even higher. What is more the abnormal electroencephalogram appears to present consistently recurring patterns of paroxysmal activity that at once appear (to the author) to be specific both in type and in location to surface electroencephalography.

The abnormal electroencephalograph rhythms have variously been attributed to a "maturational defect", to



TABLE I.  
Group I: Children Presenting with Episodic Behaviour Disorders and Otherwise "Normal".

Case Number.	Age. (Years.)	Sex.	Perinatal History.	First Born.	Delayed Milestones.	Infantile Convulsions.	Slow at School.	Electroencephalogram.	
								Normal.	Abnormal.
1	8	F.	-	+	-	-	-		+
2	12	M.	-	+	-	-	-		+
3	7	M.	+	+	-	+	-		+
4	6	F.	+	+	-	-	+		+
5	9	M.	-	+	+	-	+		+
6	3	M.	-	+	-	-	+		+
7	13	F.	+	+	-	-	+	+	+
8	11	M.	-	+	-	+	-		+
9	5-5	M.	-	+	-	-	+		+
10	9	M.	-	+	+	-	+		+
11	14	M.	-	+	+	+	+	+	-
12	7	M.	+	+	-	-	-		+
13	9	M.	+	+	+	+	+		+
14	5	M.	+	+	+	+	+		+
15	3	M.	-	+	-	-	+		+
16	6	M.	+	+	+	-	+		+
17	9	F.	+	+	+	-	+		+
18	6	F.	+	+	-	-	-	+	-
19	6	M.	+	+	-	-	-	+	-
20	9	F.	+	+	-	-	-		+
21	5	M.	+	+	-	+	-		+
22	8	F.	-	+	+	+	-		+
23	4	F.	-	+	+	+	-		+
24	5	M.	+	+	-	-	+		+
25	3	M.	+	+	+	+	-		+
26	5	M.	+	+	+	-	-		+
27	3	F.	-	+	-	-	-	+	+
28	7	M.	+	+	-	-	-	+	-
29	9	M.	+	+	+	-	+	+	-
30	3	F.	-	+	-	-	-	+	-
31	13	M.	-	+	+	+	+	+	-
32	8	M.	-	+	+	+	+	+	-
33	11	F.	+	+	+	-	+	+	-
34	7	F.	+	+	+	-	+	+	-
35	8	F.	+	+	+	-	+	+	-
36	6	F.	+	+	+	+	-	+	-
37	13	M.	+	+	+	+	-	+	-
38	10	F.	+	+	-	+	-	+	-
39	6	M.	+	+	-	-	+	+	-
40	9	M.	+	+	+	+	+	+	-
41	8	M.	+	+	+	+	+	+	-
42	14	M.	-	+	+	+	-	+	-
43	15	M.	-	+	+	+	+	+	-
44	8	F.	-	+	+	-	+	+	-
45	7	M.	+	+	+	+	+	+	-
46	10	F.	+	+	+	+	+	+	-
47	10	M.	+	+	+	-	-	+	-
48	10	M.	+	+	+	-	-	+	-
49	13	M.	+	+	+	-	+	+	-
50	13	M.	+	+	+	-	+	+	-
51	12	M.	+	+	+	-	+	+	-
52	11	F.	+	+	+	+	+	+	-
53	10	M.	+	+	+	-	+	+	-
54	12	M.	+	+	+	-	-	+	-

brain damage and to epileptic discharge, and in this regard a review of recent literature is not out of place.

Some authors have stated dogmatically that there is little evidence that the disorder can be considered epileptiform (Kennard and Willner, 1947), whereas others consider, equally forcefully, that the episodic behaviour patterns are epileptic equivalents (Zimmerman, 1956). Miller and Lennox (1948) maintain that the behaviour difficulties in children are not related to epilepsy in the absence of overt seizures. But these authors think that there is a link between the abnormal electroencephalograms and a past history of possible brain damage. Denis Hill (1952) discusses very fully the electroencephalogram in episodic psychotic and psychopathic behaviour. Here he is more concerned with a certain group, namely prison population, schizophrenics, murderers and those with not yet diagnosed psychopathic episodes—less with the problem in childhood. However, he draws two distinct broad classifications of electroencephalogram abnormalities: (i) maturation defects; (ii) paroxysmal disturbances in the electroencephalogram. He makes, I think, an important statement in relation to anterior and posterior temporal foci (spikes).

1. Overt epilepsy and episodes of disturbed consciousness are twice as common in patients with anterior foci (when compared with posterior foci).

2. On the other hand the incidence of abnormal personalities, attacks of psychopathic aggression and

anti-social behaviour are all consistently more common in patients with posterior temporal foci. But the latter types of disturbance, especially psychopathic aggression, is found in association with both types of focus; and such posterior temporal foci are seen in abnormal children.

#### Presentation.

In this present survey of 131 children with episodic behaviour disorders, the author proposes to analyse the protocols and the electroencephalographic findings and to attempt a correlation between brain damage and the subsequent development of episodic behaviour patterns. It is his belief that this special type of behaviour disturbance is in fact an epileptic equivalent—a special form of epilepsy *per se* and not the psychomotor epilepsy in which the emphasis is more on the "motor" fraction than on the "psychic". This type, for the want of a better term, may be called "psychic epilepsy", and must carefully be dissected away from that type of temporal lobe seizure which we call psychomotor epilepsy—a different entity altogether.

It is his belief that this syndrome is the result of an autonomous synchronous discharge of neuronal clusters (in an aganglionic scar or in pericentric neuronal clusters), producing not a motor or sensory nor yet a psychomotor fit, but a violent psychological disturbance or aberration of behaviour which can justifiably be termed epileptoid or epileptic. In fact, the author maintains that the various electroencephalogram patterns represent not maturational defects but the electrographic record of

abnormal neuronal discharge arising in or near the temporal lobes. Such abnormal electroencephalogram patterns include: (a) posterior temporal focus of slow waves, usually in bursts or paroxysms, commonly right-sided; (b) high voltage temporal, temporo-parietal and temporo-occipital theta at 4 to 7 c.p.s.; (c) paroxysmal

attention to the problem of epilepsy in the cerebral palsied child, and discussed the value of electroencephalography to the clinician in the over-all management of such children. In this sub-group are a number of cerebral palsied children with severe episodic behaviour disorder patterns, and, once again, the recognition of an

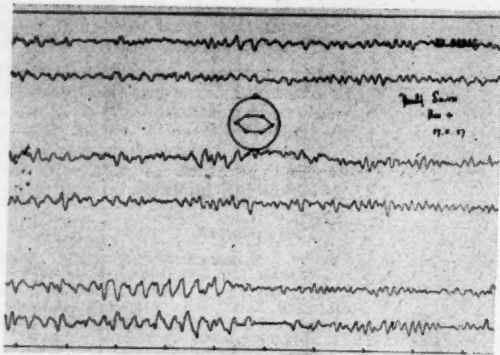


FIGURE I.

CASE 34. Male patient, aged seven years. First born, long labour, instrumental delivery. Delayed milestones, slow at school. Episodic behaviour disorder, rages, but no seizures. Paroxysmal record, showing bursts of high voltage slow waves at 4 c.p.s. and sharp waves especially over left temporal area posteriorly. Anti-convulsants given with effect.

delta activity in the same distribution; (d) temporal spikes or sharp waves; (e) temporal spike and slow wave foci.

In the author's series four broad groups of children were analysed.

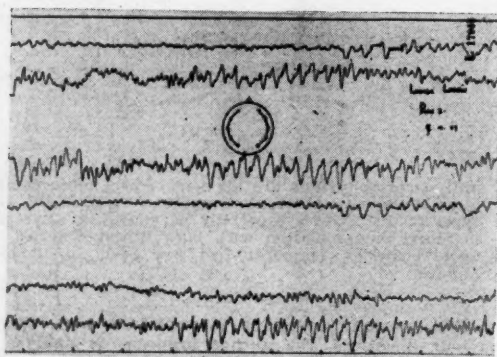


FIGURE II.

CASE 45. Male patient, aged seven years. Maternal history of ante-partum hemorrhage. Anoxia at birth. Screaming fits since the age of 12 months. Temper tantrums and rages—stiffens "almost to convulsion point with rages". Sleeps after rages. Vicious, slow at school, acts of violence. Paroxysmal "interseizure" record. Note high voltage spikes recorded over temporal lobes—especially right mid and posterior temporal zones.

1. Children presenting with episodic behaviour disorders and otherwise "normal".
2. Children presenting with epilepsy and behaviour disorders.
3. Children with infantile cerebral palsy and behaviour disorders.
4. Children with post-encephalitic and post-meningitic explosive disorders.

In respect to the infantile cerebral palsied group, in a previous communication (1957) the author drew

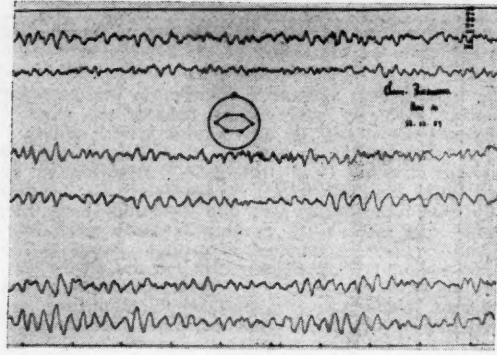


FIGURE III.

CASE 4. Female patient, aged six years. First born. Caesarean section. Birth weight 5 lb. 8 oz. Unpleasant bad-tempered child. Destructive. Bursts of unprovoked severe temper and rages. No seizure history. Posterior temporal dysrhythmia with bursts of high voltage theta at 4 c.p.s.

abnormal electroencephalogram has suggested appropriate therapy with satisfying results in the handling of these doubly difficult problem children.

In the following analyses an attempt has been made to bring out the possible aetiological factor of brain injury—to be more specific, injury to the temporal

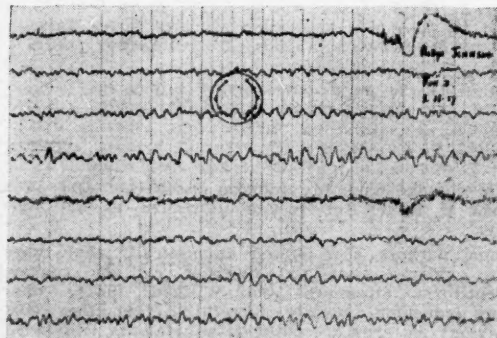


FIGURE IV.

CASE 23. Female patient, aged four years. Birth and milestones normal. Slow at school. Distractable. Episodic temper tantrums. No seizures. High voltage paroxysmal slow waves at 3 to 4 c.p.s. recorded over the right posterior temporal zones.

lobe. This lobe is now known to extend beyond its customarily accepted anatomical outline, and probably suffers insults producing neuropathological changes, which changes are suitably placed as to be responsible for the epileptic equivalent discharges.

#### Group 1: Children Presenting with Episodic Behaviour Disorders and Otherwise "Normal".

A careful analysis of the perinatal history was made in an endeavour to correlate the possibility of "brain damage" and subsequent episodic behaviour disorders. The protocols of 54 children (see Table I) were analysed. Thirty of the children had a suggestive history that might indicate damage to the brain in utero or at



TABLE II.  
Group II: Children with Epilepsy and Behaviour Disorders.

Case Number.	Age. (Years.)	Sex.	Trauma, Perinatal or Post-natal.	First Born.	Delayed Milestones.	Fits.	Slow at School.	Electroencephalogram.	
								Normal.	Abnormal.
55	3	M.	+	+	+	+	—		+
56	5	M.	+	—	—	+	—		+
57	4	F.	+	—	—	+	—		+
58	8	F.	+	—	—	+	—		+
59	10	M.	+	+	+	+	+		+
60	8	M.	+	—	—	+	—		+
61	15	M.	+	—	—	+	—		+
62	13	M.	+	—	—	+	—		+
63	10	M.	+	+	—	+	—		+
64	7	F.	+	+	—	+	—		+

birth. The predisposing conditions included: (a) maternal factors—viral infections during pregnancy, maternal toxæmia and hypertension; (b) prematurity; (c) dystocia; (d) anoxia; (e) Rh isoimmunization.

In addition to these factors, 35 of the children were first born. This may be important because of the

these children are slower than their siblings, and they are commonly at the bottom of the class (in this series, 23).

As will be seen in Table I there is a high percentage of abnormal electroencephalograms. The actual figure in this group is 41. The electroencephalograms, of which

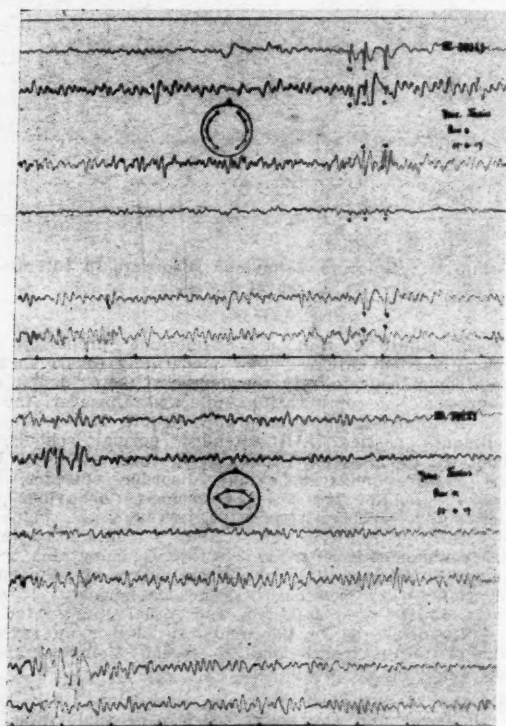


FIGURE V.

CASE 58. Female patient, aged eight years. History of birth trauma. Severe rages and temper outbursts preceded by the onset of *petit mal* quartette epilepsy, in which were noted minor adverse seizures and automatisms. Now displays both forms of disturbance. High voltage subcortical spikes over right temporal zone with spread to opposite cortex.

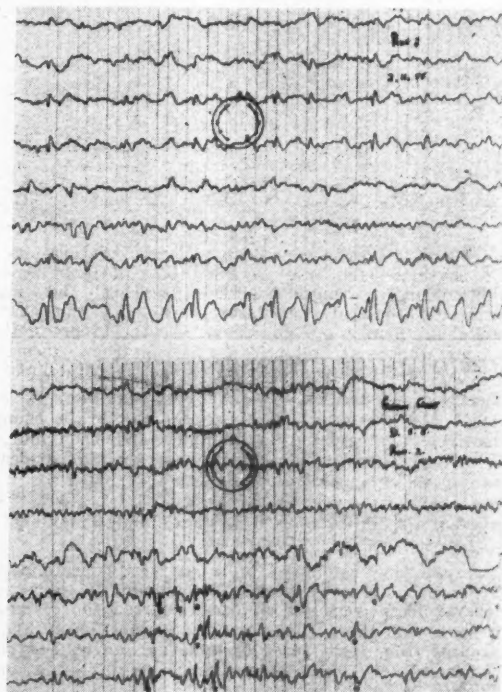


FIGURE VI.

CASE 89. Male patient, aged five years. Infantile cerebral palsy. Right spastic hemiplegia. Maternal history of preeclamptic toxæmia. Behaviour extremely bad, comes in bursts of rages accompanied by incredible rudeness and perversity. No seizures. High voltage spikes and slow wave complexes from the left mid and posterior temporal lobe area.

reported possibility of uncal compression and ischaemia even in the course of so-called "normal" deliveries. An interesting feature is the often reported story of delayed milestones (42% in this series) and backwardness in school work, especially in English and more particularly in word and sentence comprehension. The story has been commonly repeated that their attention span is poor and that there has been a general regression of work standard. It is not unusual to hear that

but a small representative number are illustrated (Figures I to IV), scarcely with exception contain electrographic evidence of temporal, temporo-parietal and temporo-occipital dysrhythmias. As stated by Grey Walter, a frequent finding in cases of severe behaviour disorder is a focus of theta or delta activity localized to the right temporo-occipital regions, even at an age when in normal children the theta rhythm is usually more prominent on the left side.

TABLE III.  
Group III. Episodic Behaviour Disorders in Infantile Cerebral Palsy: Spastic Hemiplegia.

Case Number.	Age. (Years.)	Sex.	Perinatal History.	Delayed Milestones.	Fits.	Spastic Hemiplegia.		Electroencephalogram.	
						Right.	Left.	Normal.	Abnormal.
65	4	M.	+	+	-	+		+	
66	4	F.	+	+	+	+			+
67	1	F.	+	+	+	+			+
68	6	M.	+	-	+		+		+
69	5	F.	+	+	+	+			+
70	10	M.	+	+	+	+			+
71	12	M.	+	+	-	+			+
72	8	M.	+	+	-	+			+
73	7	M.	+	+	-	+		+	
74	7	F.	+	+	-	+			+
75	7	M.	+	+	+	+			+
76	7	F.	+	+	+	+			+
77	12	M.	+	+	+	+			+
78	14	M.	+	-	-		+		+
79	8	F.	+	+	+		+	+	
80	9	M.	+	+	+		+		+
81	3	F.	+	+	-		+		+
82	9	F.	+	-	-		+	+	
83	8	M.	+	-	-		+		+
84	4	M.	+	-	-		+	+	
85	8	F.	+	-	-		+		+
86	8	M.	+	+	+	+			+
87	10	M.	+	+	+	+			+
88	11	M.	+	+	+	+			+
89	4	M.	+	-	-	+			+
90	9	F.	+	-	-	+			+
91	11	F.	+	-	+	+			+
92	12	M.	+	-	+	+			+
93	12	M.	+	-	+	+			+
94	14	M.	+	-	-	+			+
95	6	M.	+	+	-	+			+
96	6	F.	+	-	+	+			+
97	8	M.	+	-	+	+			+
98	11	F.	+	+	+	+			+
99	5	M.	+	-	-	+		+	
100	5	M.	+	-	-	+			+
101	4	F.	+	-	-	+			+

Do these records represent delayed maturation to adult rhythms (the interpretation of children's records are notoriously fraught with difficulties, and much depends on the personal interpretation of the electroencephalographer), or do they, as the reproductions illustrate, represent epileptic discharges from subcortical structures in the rhinencephalon or the temporal lobe?

Whatever one decides, it would seem that there is some physical disturbance of that part of the brain thought to be intimately related to emotions and behaviour. I believe that there is a strong case for the disorders being an epileptic equivalent.

#### Group II: Children with Epilepsy and Behaviour Disorders.

This category comprises a group of 10 brain-injured children who presented with behaviour disorders and epilepsy. They were all children referred for diagnosis, and in all of them the perinatal or post-natal history of trauma, the early onset of epilepsy and/or behaviour disorders clearly suggested cerebral dysrhythmia on a basis of acquired neuropathology. All had abnormal electroencephalograms with clear spikes or spike and slow wave discharges from the temporal lobes (Table II).

As is common in the brain-damaged child, symptomatic epilepsy declares itself early. Such facets of *petit mal* quartette epilepsy (Lennox and Jean Davis) as infantile spasm, akinetic seizures, myoclonic *petit mal*, massive jerks, minor motor seizures, etc., are well known, and were present in one from or other in this group of children.

It is worthwhile recalling the interesting time relationship of the behaviour disorders to epilepsy. In this small personal series it was common to elicit the story that a severe episodic pattern of behaviour disorder often antedated the overt seizures by varying periods of months to several years.

Figure V illustrates the typical electroencephalographic findings and protocols of this group.

#### Group III: Episodic Behaviour Disorders in Infantile Cerebral Palsy.

##### Spastic Hemiplegia.

It is admitted that a considerable proportion of cerebral palsied children show moderately severe mental defect commensurate with the degree of motor deficit and the presence of complicating epilepsy. However, the 37 children analysed in this group (Table III) were all intelligent spastics. All attended normal schools or school at the Spastic Centre. Of this group 13 had overt seizures *plus* behaviour disorder episodes, but many—24 out of the 37—had explosive behaviour disorders only. These latter episodes take the place of overt seizures. There was a high percentage of inter-seizure abnormalities in the electroencephalograms. The commonest abnormalities were focal spikes or focal spike and slow wave complexes. Such abnormalities were clearly on the side expected, and either represented an *ab initio* discharge in the temporal lobe or an involvement of the temporal lobe by spread from neighbourhood epileptogenic areas.

Of the 24 with behaviour disorders alone there were 18 abnormal and six normal electroencephalograms; of the 13 with seizures *plus* behaviour disorders, all the electroencephalograms were abnormal.

Dead neurones cannot give rise to abnormal potentials, so that the abnormal discharges recorded must have their origin in contiguous irritated neuronal clusters. What determines whether the child (so brain injured) will display one or other clinical counterpart of abnormal electrical discharge is not known. Perhaps in those with behaviour disorders alone the limbic lobe is directly implicated in the brain damage inflicted. Such epileptic equivalents are improved or controlled by anticonvulsants, and with the clinical improvement there is a *pari-passu* improvement of the electroencephalogram.

In the work at the Spastic Centre one finds the term "typical hemiplegic personality" often repeated in the clinical case notes. This typifies a personality characterized by acute episodes of behaviour disturbance.

Impulsive threatening behaviour, temper tantrums and rages, bursts of bad behaviour, unprovoked attacks on siblings, and shocking behaviour are all terms that abound in the records.

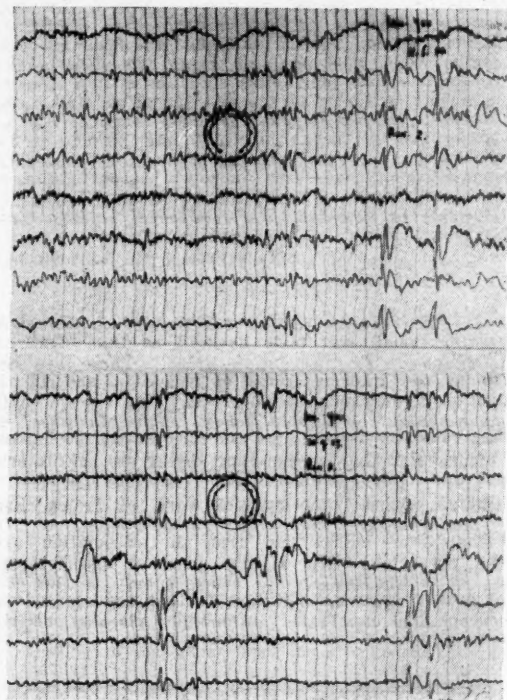


FIGURE VII.

CASE 87. Male patient, aged ten years. Infantile cerebral palsy. Right spastic hemiplegia. Twenty-three hour labour, precipitate delivery. Cerebral irritation. Milestones slow; attends public school. Severe episodic behaviour disturbance. Tempers, compulsive behaviour. No seizures. High voltage biphasic spikes from left temporal lobe.

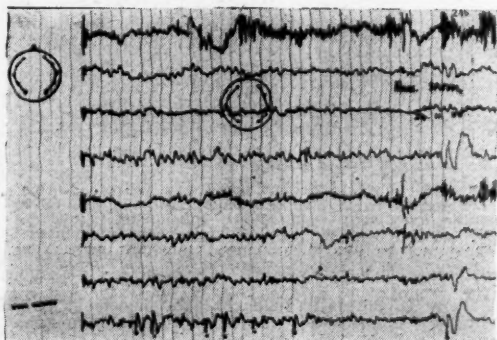


FIGURE VIII.

CASE 73. Male patient, aged seven years. Infantile cerebral palsy. Right spastic hemiplegia. Instrumental delivery. Milestones slow. Attends normal school. Speech slow. No seizures. Spike discharges in resting record from left temporal zone posteriorly. Anti-convulsants given with effect.

Finally, it will be noted in Table III that all children in this group have a history of perinatal brain damage. The causative factors were analysed as follows: dystocia, 21 cases; anoxia, five cases; prematurity, six cases; pre-eclampsia, four cases; rubella, one case.

Figures VI, VII and VIII are included to illustrate the electroencephalographic abnormalities discussed.

TABLE IV.

Group III. Episodic Behaviour Disorders in Infantile Cerebral Palsy: Dyskinesia (Athetoid Cerebral Palsy).

Case No.	Age (Yrs.)	Sex.	Perinatal History.		Delayed Milestones.	Seizures.	Electro-encephalogram.	
			Dystocia.	Rh.			Normal.	Ab-normal.
102	7	M.		+	+	-		+
103	4	M.	+		+	-		+
104	13	M.		+	+	-		+
105	8	F.		+	+	-		+
106	8	M.	+		+	-		+
107	4	M.	+		+	+	+	+
108	6	M.	+		+	+		+
109	6	M.		+	-	+	+	+
110	8	M.	+		+	-	+	+
111	11	F.	+		+	-		+
112	5	F.		+	+	-	+	+
113	9	M.		+	-	-		+
114	5	M.		+	-	-	+	+
115	10	F.	+		-	+		+
116	8	M.		+	-	-	+	+
117	11	M.	+		+	-		+

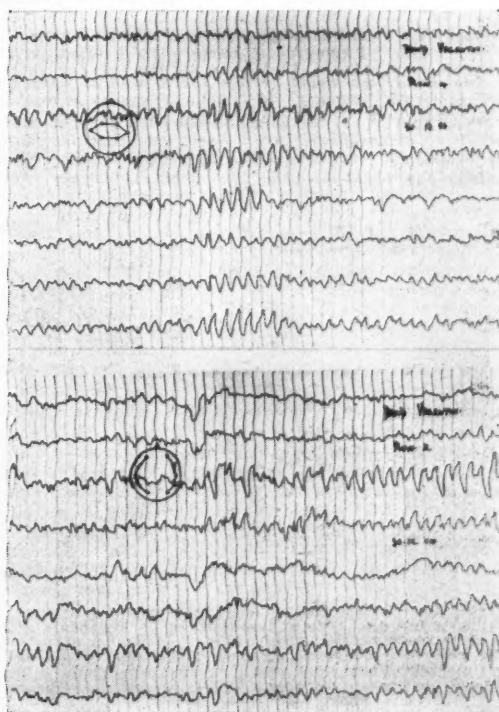


FIGURE IX.

CASE 104. Male patient, aged 13 years. Infantile cerebral palsy. Rh. athetoid. Milestones a little delayed. Attends normal school. Very frequent temper tantrums and storms. No seizures. Serial electroencephalography revealed high voltage temporo-parietal theta paroxysms and right-sided mid-temporal focus of slow waves. Anti-convulsants prescribed with effect.

#### Dyskinesia (Athetoid Cerebral Palsy).

There were 16 children with athetoid syndromes (and normal intelligence) in this group who displayed episodic behaviour disorders. Thirteen exhibited behaviour disorders alone and three behaviour disorders and fits. The abnormalities in the electroencephalogram patterns were



TABLE V.  
Group IV: Post-Encephalitic and Post-Meningitic Explosive Disorders.

Case Number.	Age. (Years.)	Sex.	Encephalitis.	Meningitis.	Asphyxia.	Lead.	Seizures.	Electroencephalogram.	
								Normal.	Abnormal.
118	12	M.		+			-	+	
119	7	F.	+				+		+
120	7	M.	+				-		+
121	8	M.		+			-		+
122	7	F.	+				-		+
123	7	F.	+				-		+
124	7	M.	+				-		+
125	10	M.			+		-		+
126	13	M.	+				+		+
127	9	F.	+				+		+
128	5	F.	+				+		+
129	12	F.		+			+		+
130	10	M.	+				+		+
131	6	F.				+	+		+

the same as those recorded in the first group of infantile cerebral palsy. A history of cerebral insult was obtained in all, and the breakdown was as follows: Rh factor, eight cases; anoxia, four cases; dystocia, three cases; maternal toxæmia, one case.

Table IV gives the brief analysis of the protocols and Figure IX illustrates the electroencephalogram pattern.

#### Group IV: Post-Encephalitic and Post-Meningitic Explosive Disorders.

In this small personal series there was a clear-cut history of brain damage. *Ætiological analysis* was as follows (Table V): measles encephalitis, four cases; encephalitis unclassified, five cases; meningitis, three cases; asphyxia (near drowning), one case; lead poisoning, one case.

lobe. (i) The special cortex. This subserves sensations of hearing, smell and taste as well as that concerned with balance. (ii) Association areas. These are concerned in the interpretations of sensation and in the production of emotional feeling. (iii) The visceral brain (rhinencephalon or limbic lobe). This includes the hippocampus and hippocampal and amygdaloid mechanism, the uncus and the surrounding cortex in the inferior frontal and rostral temporal areas and the insula.

Williams argues (quoting the work of Papez, Bard and Mountcastle) that the rhinencephalon is the emotional-motor cortex and that the association area of the neocortex (that is, the area of the temporal cortex excluding the special sense areas) is the emotional sensory cortex. Williams further argues that the rhinencephalon dominates autonomic visceral activity because it is the emotional-motor cortex.

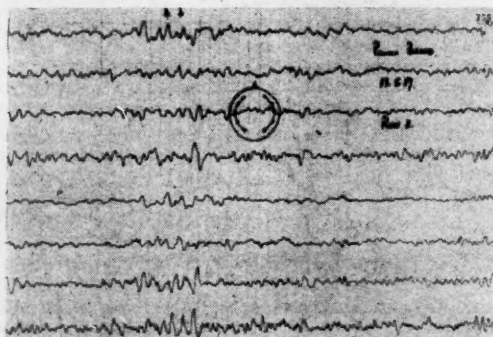


FIGURE X.

CASE 127. Female patient, aged nine years. Normal perinatal history. Normal milestones. "Encephalitis" at three years of age. After recovery screaming attacks and *petit mal* quartette epilepsy. Epilepsy controlled by anticonvulsants and then a bursting forth into episodic behaviour disorder. Bursts of temporal sharp waves and slow waves.

Again there was a high percentage of electroencephalogram abnormalities—13 out of 14 recordings. Figures X and XI illustrate the typical electroencephalogram findings and protocols of this group.

#### Conclusion.

One could profitably review the modern concepts of temporal lobe function. It has been rightly stated that the temporal lobe is the meeting place of the neurologist, the neurosurgeon, the neurophysiologist and pathologist and the psychiatrist. Denis Williams (1957) very concisely sums up the modern views of the temporal lobe in relation to its divisions and functions. He draws particular attention to the "division" of the temporal

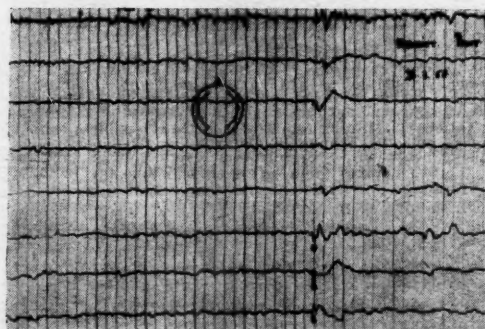


FIGURE XI.

CASE 128. Female patient, aged five years. Normal birth and neonatal history. Encephalitis at age of 12 months associated with status epilepticus. Residual mild right spastic hemiplegia. Severe explosive behaviour disorder with temper tantrums, etc. No seizures since original. Left-sided temporal spikes.

The view is generally held that the neocortex inhibits the lower subcortical mechanisms (rhinencephalic) responsible for the behaviour called rage.

Williams (1956) discusses emotional experiences as ictal events, and included were such emotions as fear, depression, pleasure or displeasure, rage and aggressive behaviour. The well-known psychological seizures of Penfield are, of course, related to epileptic discharges in the association cortex.

It was Papez (1937) who advanced the theory that the rhinencephalon was an integral part of the central mechanism subserving emotion, and MacLean (1952) emphasized its relation to visceral (viscero-motor) activity with all the well-known counterparts of emotional experience.

Denis Williams finally states that it would be wise to consider the fronto-temporal cortex as the emotional brain.

In conclusion one is tempted strongly to hypothesize that these emotional storms in children result from a disturbance of the emotional brain. It will be recalled that much work has been done on Ammon's horn sclerosis and incisural sclerosis, the former having been studied exhaustively by Meyer and the latter by Penfield and Jasper; and it will be recalled that the common areas of brain damage in the neonate include the inferior surface of the temporal lobe, the uncus, the hippocampus, etc., where coning and tentorial indenting are commonest. Areas of gliosis and atrophy develop, and in the surrounding tissues abnormal discharges occur in neuronal clusters. It is but a further step, therefore, to suggest that episodic rages, etc., are the result of abnormal discharges involving circuits of the limbic lobe and the neocortex of the temporal lobe.

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## Reports of Cases.

### RESPIRATORY PARALYSIS DUE TO SNAKE-BITE: REPORT OF TWO CASES.

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CASES of poisoning by venomous snakes are not frequently seen in major city hospitals. Bites, or more frequently possible bites, from harmless snakes are seen from time to time in the casualty department, but many city doctors are entirely unfamiliar with the clinical manifestations of severe snake bite. The following two cases are recorded to illustrate the clinical picture and severity of this condition.

#### Case I.

About 10 p.m. on December 30, 1956, a girl, aged 20 years, was "stung" on the left foot while walking along a path at a Queensland mountain holiday resort. The ground in the immediate vicinity was fairly clear, and a flashlight was produced promptly. No reptile or insect was seen, although an eye witness of the incident subsequently stated that she thought she saw a "round-bodied thing like a rat" scuttle off into the bush near by.

The ground in the immediate vicinity was beaten next day, but no snake was seen. The wound was examined within about five minutes of its occurrence, and the opinion was expressed that it was not a snake-bite. It was presumed that she had been bitten by "an insect". No first-aid measures effective against snake-bite were applied.

The wound apparently rapidly became swollen, painful and discoloured like a bruise. These local symptoms subsided within about an hour, although the bruising persisted. Within about five minutes of the "sting" the girl vomited, and later severe abdominal pain and diarrhoea occurred. According to friends, she was in a state of "severe nervous collapse".

In the early morning of December 31, she was transported by ambulance to the nearest private hospital nearly 30 miles distant. Here she remained under observation for over 24 hours, during which time her condition apparently gave no great cause for alarm. She was then transferred to the Brisbane Hospital, where she was admitted at 12.30 p.m. on January 1, 1957. This was 38 hours after the "sting".

On admission to this hospital she was gravely ill, but able to give a lucid history. She had noticed the onset of general weakness the evening before admission and this weakness had progressively increased. She had tried to walk to the ambulance, but was unable to stand. For the same time she had noticed difficulty in swallowing and breathing and these symptoms also had increased. She was unable to cough sufficiently to clear her throat of secretions which she was aware were accumulating there.

On examination, ptosis of both eyelids was apparent, and her voice had a nasal quality. She was unable to swallow and unable to protrude her tongue completely. There was almost complete paralysis of the diaphragm and intercostal muscles. Respiration was being maintained almost solely by the accessory muscles of respiration, and the respiratory rate was greatly increased. There was some neck and back stiffness. The limbs were generally weak, but not completely paralysed. Muscle tone was reduced. The deep tendon reflexes and the superficial abdominal reflexes were barely elicitable. There did not appear to be any loss of sensation, and sphincter control was good. On the left foot there were several minute puncture wounds and one slightly larger puncture wound, but the appearance was not typical of a snake-bite. There was some discoloration of the skin around the wound. Her temperature was 100.5° F.

Lumbar puncture was performed soon after her admission to hospital. The fluid was under normal pressure, and laboratory examination subsequently showed no abnormality. Urine passed some hours after admission was dark reddish-brown in colour and gave a positive result to a test for blood. Microscopically, many casts and much granular debris were present. Spectroscopic examination of this urine showed the presence of oxy-haemoglobin.

Artificial respiration was commenced soon after admission as an urgent procedure. At first a tank type respirator was used, but after 24 hours this was changed to an intermittent positive pressure respirator in view of the combined bulbar and respiratory paralysis and the failure to respond to treatment. A diagnosis of snake-bite was made on consideration of the history and the severe neurological and haemolytic phenomena present. The attack at night and the "round-bodied thing like a rat" suggested to us that the snake was probably a death adder. Mr. David Fleay has suggested, however, that the snake was probably *Tropidechis carinatus* or the rough-scaled snake. Mr. Fleay reports that this snake occurs in the region of the attack, but is little known. It is extremely pugnacious and quite potent. It is fast moving and very largely nocturnal in habit. Its toxin is said to be similar to that of the tiger snake and strongly neurotoxic.

At 4 p.m. on January 1, i.e., about 42 hours after the bite, 12,000 units of tiger snake antivenene were given



by intramuscular injection. Cortisone acetate was also given in large doses in the hope that it might lessen the effects of the toxin, particularly on the hæmopoietic tissue.

There was no immediate change in her condition after this treatment. Twenty-four hours later her paralysis was unchanged, and she could remain out of the respirator for a maximum of two minutes. Tracheotomy was then performed and intermittent positive pressure respiration instituted, and the latter was maintained until her death seven days later.

A further 12,000 units of tiger snake antivenene were given on January 4, partly by intravenous and partly by intramuscular injection. At this stage it is better to discuss her subsequent progress under separate headings.

1. **Neurological.** On January 3, there appeared to be a very slight increase in the movement of her eyelids and there was further slight improvement the next day, but there was still complete respiratory paralysis. On January 5, some contraction was noted in the intercostal muscles, but thereafter recovery halted until January 9, when some contraction of the diaphragm as well as of the intercostal muscles was noted. The exchange of air by the action of these muscles was, however, negligible. After January 5, respiration was hampered by fluid retention in the respiratory passages and body tissues generally, but she was never able to maintain respiration by her own efforts before her death.

2. **Renal.** Renal damage was to be expected after the hæmoglobinuria, which persisted until the evening of January 4. Anuria did not occur, but oliguria was present for some days. It was probably aggravated by a certain amount of dehydration consequent on her bulbar paralysis and inability to swallow. Her blood urea level rose progressively to 468 mg. per 100 ml. before death, and the carbon dioxide combining power fell progressively until artificially corrected. A raised serum potassium level was present during the period of hæmolysis, but subsequently fell to reasonably normal levels.

3. **Pulmonary.** From January 5 onwards, difficulties were experienced with her artificial respiration. Secretions became troublesome, and were aggravated by oedema of the bronchial mucosa, which was visible on bronchoscopy. Finally, profuse pulmonary oedema ensued, and before death the lungs had largely lost their distensibility.

4. **Fluid retention.** On January 5, fluid retention within the body became apparent. In addition to the pulmonary oedema there was oedema of the face and tender enlargement of the liver. It was presumably initiated by her renal failure and possibly aggravated by the cortisone, which had been continued in fairly large doses since her admission to hospital.

5. **Hæmorrhagic.** At the time of tracheotomy every attempt was made, apparently successfully, to achieve complete hæmostasis. Despite this, bleeding from the wound occurred subsequently to such an extent that it had twice to be reopened and packed, thromboplastin being used on the second occasion. This occurred late at night, and prothrombin estimations of her blood were not possible. Vitamin K was given by injection. The prothrombin time when estimated next morning was within normal limits. No further investigations of this aspect were carried out.

Death occurred late on January 9, 1957. Autopsy was performed by Dr. A. Davison at the Government Morgue on January 11. The significant features were as follows. The bronchi were filled with thick mucopurulent material and were inflamed. The lungs showed gross congestion and oedema, with apparent consolidation of both lower lobes. Both kidneys were tense and enlarged. The cortex of the kidneys was extremely pale and well demarcated from the medulla, which was intensely dark and congested. The brain showed no gross lesion microscopically.

On microscopic examination the kidney showed fragmentation of the cytoplasm of the proximal convoluted

tubules. The epithelium of the distal tubules was flattened, with reduction in the number of nuclei, and many of the tubules contained brick-red structureless casts. The glomeruli and renal vessels were normal. The changes were considered to be those of a lower nephron nephrosis. In the lung there was a fibrinous and diffuse polymorphonuclear cell exudate. Oedema and occasional large pigment-laden histiocytes were present in the alveoli. The only histological abnormality apparent in the brain was the occasional presence of vessels packed with polymorphonuclear leucocytes, but there was no perivascular infiltration nor was there any area of gliosis or hæmorrhage. Sections of spinal nerves, and brain stem and spinal cord showed no evidence of myelin degeneration.

Death was considered to be due to acute pulmonary oedema complicating bulbar and respiratory paralysis due to snake-bite, associated with a lower nephron nephrosis attributable to intravascular hæmolysis.

#### Discussion.

There seems little doubt that this girl died from snake-bite poisoning. The identity of the snake will always remain a matter for speculation. Death adders and brown snakes are known to occur in this area, but Mr. Fleay thinks that the rough-scaled snake is a more likely suspect. He informs us that some work has been done on the venom of this last snake at the Commonwealth Serum Laboratories, and that tiger snake antivenene is a suitable counter-agent. It is disappointing to note that this girl had 24,000 units of antivenene without appreciable effect on her symptoms. Most of this was given by intramuscular rather than intravenous injection (this largely because artificial respiration was commenced first as a matter of urgency and it is not easy to give intravenous injections to a patient in a tank type respirator); nevertheless it should all have been absorbed and become therapeutically active long before she died. Four possible explanations of the failure of therapy suggest themselves.

1. The responsible snake was one whose venom is not neutralized by tiger snake antivenene.

2. The antivenene was not potent. However, it was well within expiry date.

3. Treatment was given too late. This implies that there is a certain period beyond which recovery is impossible, presumably because irreversible damage has been done to the nervous system or respiratory muscles. The site of action of the neurotoxin has been the subject of much research in the past. Early research workers in India (Lamb and Hunter, 1904) concluded that the toxin acted chiefly on the ganglion cells of the cerebral cortex, pons, medulla and spinal cord, producing degeneration in these cells. They concluded on histological grounds that in some cases the cells were beyond recovery. Kellaway (1932) suggested that these changes were probably due to asphyxia rather than toxin. He showed experimentally that the venoms of Australian snakes produced respiratory paralysis by a curare-like action at the neuromuscular junction. He also concluded that action on the central respiratory mechanism played no important part in death from respiratory failure after injection of venom. Work on cobra venom by Arthus (1910, quoted by Kellaway, 1932) showed that its curarizing effect was reversible by antivenene. Kellaway records experiments with copperhead and tiger snake venoms, which showed that the curarization was probably reversible in the early stages. But he also showed that there appeared to be a direct action of the toxin on the muscle, probably due to the action of venom lecithinase in altering the permeability of the cells, and that this was not readily reversed by antivenene. He states:

The added direct action of Australian snake venoms on the muscle of the diaphragm is difficult to reverse when well established; indeed, there is no evidence that it can be reversed within the periods covered by these experiments. If long periods of unopposed action are allowed to tiger snake venom, this direct effect on the



irritability of muscle becomes fully developed. Short periods of unopposed action of tiger snake and copper-head venoms reveal the reversible curari effect.

There is evidence here, then, for the supposition that there may be a certain stage beyond which treatment is too late.

4. The antivenene was inhibited by the cortisone. This possibility should be discussed further. The cortisone was given primarily in the hope of preventing further haemolysis, with its danger of renal damage. In this it was completely unsuccessful. At the time it was given there was no readily available reference to the use of cortisone in snake-bite. Since then it has been noted that Lester (1957) gave ACTH to his patient without apparent ill effect, and Locket (1957) recommends the use of corticotrophin "in preventing local exudate from forming and also preventing acute circulatory collapse". In retrospect, we think the use of cortisone was unwise. It certainly had no beneficial effect, and it probably aggravated the fluid retention which occurred. It may even have prevented the neutralization of venom by antivenene. Information on this point is not definite. Goodman and Gilman (1956) state that "the tentative conclusion may be reached that induced hypercorticism does not prevent the reaction between antigen and antibody . . .". Te-Wen Chang and Weinstein (1957) conducted experiments on the effect of cortisone on tetanus in mice. They concluded:

1. The therapeutic effectiveness of very large doses of tetanus antitoxin is markedly reduced by the simultaneous administration of cortisone when both agents are given 24 hours after injection of toxin.
2. Administration of steroid has little or no effect in the course of experimental tetanus if administration of antitoxin is delayed 48 hours or more after exposure to toxin.
3. Cortisone increases the activity of tetanus toxin.
4. Results strongly suggest that the use of cortisone in addition to antitoxin for the treatment of human tetanus may produce a deleterious effect.

The death of this patient was probably attributable more to the fluid retention and renal failure than to the respiratory failure, but there is no doubt that the former conditions would have been more easily treated if her respiratory function had returned to normal.

#### Case 11.

"Something" scratched the left foot of a farm labourer, aged 46 years, about 6.30 p.m. on November 9, 1958. He was employed on a farm at Moggill, an outer suburb of Brisbane. He was wheeling his barrow along an earth path at the time of the incident, and he was barefooted. He thought he had run over a kitten and took no notice of the incident. No first-aid measures of any kind were carried out. It was dark at the time, and he said he did not see anything, nor did he think of a snake as a possible cause of the scratch. When in the light, about half an hour later, he could see no "significant" lesion on his foot other than a few scratches. About this time he noticed a "peculiar sensation" creeping up his left leg. Two hours or more after the bite he vomited and then found he was so weak he could not stand. Abdominal pain and diarrhea then occurred.

He was admitted to the South Brisbane Hospital about 10.30 p.m. that day. Ptosis of both eyelids was then evident, he was sweating freely and there was evidence of respiratory embarrassment. His breathing was shallow and the accessory muscles of respiration were being used. He could still swallow and could move all limbs, although they were generally weak. The tendon reflexes were present apart from the ankle jerks, and there was a bilateral extensor plantar response (it is now believed that these latter findings are part of a pre-existing neurological disease). There did not appear to be any loss of sensation, and sphincter control was normal. On the left foot there was one definite puncture wound and several small scratches 11 mm. away from the puncture wound. There was no local reaction of any degree around these wounds. His temperature was 100.4° F. His urine appeared normal.

At 10.50 p.m. 3000 units of tiger snake antivenene were given intravenously, and this dose was increased to a total of 33,000 units given intravenously by midnight. By 11.15 p.m. his condition had deteriorated greatly, and there was very little movement of the diaphragm and intercostal muscles. Intermittent positive pressure artificial respiration was commenced at this stage.

By mid-day on November 10, there had been no alteration in his condition. At that time bilateral ptosis was still present, and he was unable to maintain respiration without help for more than a few minutes. It appeared that the 33,000 units of tiger snake antivenene had had no appreciable beneficial effect; 12,000 units of taipan antivenene were then given intravenously. By 1 p.m. it was thought that his ptosis had improved a little. By 5 p.m. it was obvious he was greatly improved. Some ptosis was still present, but he could open his eyes widely. The intercostal muscles and diaphragm were then contracting well, and artificial respiration was ceased. He was able to swallow adequately. At 10 p.m. his neurological signs had disappeared completely, apart from the absent ankle jerks and extensor plantar responses, which have remained ever since and are thought to be indicative of pre-existing neurological disease.

He has remained well since.

#### Discussion.

Again there seems no doubt that this man was bitten by a snake. It was not seen and its identity will always remain speculative. No first-aid measures were carried out. Black and brown snakes are the known venomous snakes in this area, but death adders probably also exist. Taipans have been recorded occasionally around Brisbane. The patient said that about twelve months earlier he saw some 50 yards away a large brown snake which was standing up "about two feet" off the ground. He thought at that time it was probably a taipan, but did not do anything about it and had not seen it since. Normally a taipan tends to rear up to bite, and for this reason the bite is frequently at knee level, whereas this man's bite was on his foot. The antivenene used was well within expiry date, yet 33,000 units of tiger snake antivenene given intravenously produced no noticeable improvement within 12 hours. Some improvement occurred within one hour of giving 12,000 units of taipan antivenene intravenously, and five hours after giving it he was out of all danger. This strongly suggests that this taipan antivenene was responsible for his fairly rapid recovery. This does not prove that the responsible snake was a taipan, but this inference could be drawn.

In this case the condition was recognized fairly promptly on his arrival at hospital, and treatment was given without undue delay. It is obvious that no irreversible changes occurred.

#### Conclusion.

We believe that in the treatment of snake-bite the following points are all important and must be stressed.

1. Antivenene must be given intravenously to secure an immediate high blood level. It has been stated that serum given intramuscularly may take up to 48 hours to be absorbed (Prudovsky *et alii*, 1958). If irreversible changes can occur with the lapse of time, then, irrespective of other treatment, an adequate amount of antivenene must be given as soon as possible, and this can be done only by large doses given intravenously. The usual precautions against anaphylaxis must, of course, be taken.

2. If within about four to six hours there is no response to an apparently adequate dose of antivenene given intravenously, then further antivenene of an alternative type should be given if it is available.

#### Acknowledgements.

We have much pleasure in acknowledging the information and help given to us by Mr. D. Fleay of the West

Burleigh Fauna Reserve, and Dr. A. Davison of the Department of Health and Home Affairs, Queensland. We thank very sincerely those many medical officers who assisted in the care of these patients. We also wish to thank Dr. A. D. D. Pye, Medical Superintendent of the Brisbane and South Coast Hospitals Board, for permission to publish these case reports.

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#### DAMAGE TO TOOTH ENAMEL BY HYDROCHLORIC ACID.

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A MALE PATIENT, aged 44 years, was diagnosed in 1947 as having achlorhydria, and was ordered to take one teaspoonful of *Acidum Hydrochloricum Dilutum* B.P., with meals. At this time he took his acid in a tumbler of water, and took no precautions to prevent damaging the enamel of his teeth. By 1948 a clinically noticeable destruction of enamel had occurred. It was suggested that he should drink his acid through a glass straw, and further that he should use a milk of magnesia mouth-wash, or chew a milk of magnesia tablet in an attempt to neutralize the acid remaining in the mouth. The alkaline mouth-wash would not, of course, be swallowed.

This treatment apparently stopped a lot of the damage, but it was not always convenient for him to follow this programme, especially when he was travelling in connexion with his business. During one overseas trip, which lasted about three months, he was dining in hotels, restaurants, etc., a great deal of the time. It was difficult or impossible to follow out his precautions completely, and although he always ingested the acid in a tumbler of water, he was unable to follow up with the alkaline mouth-wash on every occasion.

At once a great deal of damage occurred. The lingual enamel was removed from the lower incisors, labial and lingual enamel from the upper incisors and large areas of enamel from the palatal aspect of the upper molars and premolars. Occlusal surfaces of all posterior teeth were denuded of enamel, and any metal restorations in the mouth projected above the tooth surfaces, in some cases as much as one or two millimetres. By 1954 it became apparent that some simpler form of neutralizing the acid in the mouth had to be found if the patient was to retain his teeth at all.

He now always carries with him and uses Davis's gelatine capsules size 000, into which he pours the acid solution, which is then swallowed at once with plenty of water. He has found after experiment that four or five capsules hold the correct volume of acid. These disintegrate in three or four minutes and the acid solution is diluted by the tumbler of water with which he washes them down. Since he commenced using this method, no further loss of tooth structure has been noticed. As he must have his acid solution with him whenever he dines

away from home, it is no inconvenience to have a few capsules also. The cost of the capsules could perhaps be a factor. However, it is felt that this is counterbalanced by prevention of the damaging action of the hydrochloric acid on the tooth enamel.

#### LIVER DISEASE AND VIRILISM.

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EVIDENCE of oestrogenic effects such as gynecomastia and diminution of facial and body hair is found commonly enough in men with liver disease, but infrequent reference had been made in the literature to evidence of virilism in women suffering from hepatic disease until in 1951 Bongiovanni and Eisenmenger and in 1956 Bearn, Kunkel and Slater described unusual manifestations of hepatic disease in a group of young people, mostly young women. Recently three women have been seen in whom features of virilism were prominent manifestations of hepatic disease.

CASE I.—An unmarried girl, aged 16 years, had noticed an increasing number of "blood vessels" on various parts of her body over five years, the vessels coming and going in crops. During the five years her weight had increased from about 8 stone to 10 stone 5 lb. There had been frequent epistaxes and occasional prolonged bleeding after tooth extraction. Two and a half years prior to admission to hospital the girl had been ill with jaundice for eight weeks. Since then there had been episodes of anorexia and epigastric discomfort and retching soon after meals, for which appendectomy had been performed without benefit. There had been no menstrual periods, except for scanty menstrual loss once over several days twelve months earlier. As well as the amenorrhoea, the girl's parents were concerned by lack of breast development. Examination showed the girl to be moderately obese, well-developed spider naevi were scattered widely over her face, trunk and extremities, there was minimal breast development, the pubic hair was of masculine distribution and the clitoris was moderately enlarged. The cephaline flocculation test gave a strongly positive result. Later tests in hospital gave the following results: serum bilirubin level, 2.3 mg. per 100 ml., alkaline phosphatase content, 30 King-Armstrong units, serum albumin level, 3.3 grammes per 100 ml., serum globulin level, 5.2 grammes per 100 ml., prothrombin time, 45%, platelets, 150,000 per c.mm., and a urinary output of 17-ketosteroids of 16 mg. per 24 hours. There followed episodes of fluctuating jaundice in hospital and repeated crops of spider naevi; the patient died in coma five weeks after her admission to hospital following severe haematemesis and melena.

CASE II.—A married woman, aged 33 years, had been under treatment for diabetes with diet restriction and protamine zinc insulin for 15 years, and over the twelve months prior to admission to hospital her weight had increased from 11 stone to 13 stone 7 lb. For twelve months there had been amenorrhoea, increasing coarsening of the skin, facial acne and hirsuties. One month earlier there had been an episode of epigastric pain and vomiting for one day, and 24 hours prior to admission to hospital there had been a small haematemesis. Examination showed moderate obesity, considerable facial acne and hirsuties of the face, trunk and limbs with pubic hair of masculine distribution. There were two possible spider naevi on the upper part of the chest. The cephaline flocculation test gave a strongly positive result, the prothrombin time was 45%, the blood glucose content was 400 mg. per 100 ml. and the level of serum ketones was 20 mg. per 100 ml. Despite correction of ketosis and hyperglycaemia, the patient became increasingly restless and irritable, a flood of spider naevi appeared on the upper part of the chest and arms, and after a severe haematemesis the patient died in coma 36 hours after admission to hospital.

CASE III.—A single girl, aged 15 years, presented with a six months' history of recurrent anorexia, nausea and retching, epigastric pain soon after meals and occasional diarrhoea, and had undergone appendicectomy four weeks previously. Menstruation had begun twelve months earlier, but there had been amenorrhoea for three months. There had been increasing facial acne and hirsuties. For several years prior to the onset of her illness her weight had gradually risen to 11 stone 2 lb. Since the onset of the gastro-intestinal symptoms her weight had fallen to 9 stone 6 lb., then rose again to 10 stone 3 lb. On examination the girl was moderately obese, there was moderate facial acne and facial hirsuties with the pubic hair of masculine distribution. There was one possible spider naevus on the right cheek. The liver was readily palpable at the right costal margin. The cephaline flocculation test gave a strongly positive result, the serum albumin content was 5.8 grammes per 100 ml, the serum globulin level was 2.6 grammes per 100 ml. and the urinary output of 17-ketosteroids was 16.5 mg. per 24 hours. The patient left hospital without further investigation. She was known to be in reasonably good health for the next three months, but failed to return for further observation.

#### Discussion.

Although pathological confirmation of the diagnosis was not obtained, there is good evidence that the illnesses of these three young women were caused by hepatic disease. The most striking feature in this small group was the evidence of virilism with failure of development of secondary sexual characteristics in one case, amenorrhoea and hirsuties of masculine distribution in two and clitoral enlargement in one. Moreover, amenorrhoea and the other manifestations of virilism preceded the usual symptoms of liver disease, except in one case in which the earliest indication of disease was a bleeding tendency and florid spider naevi. The patients studied by Bongiovanni and Eisenmenger (1951) were women, usually under the age of 35 years, in some of whom the endocrine-like changes antedated the usual symptoms of liver disease, while in others jaundice was an earlier manifestation. In the group of 23 women studied by Bearn *et alii* (1956), whose mean age at onset was 15 years, delayed menstruation or amenorrhoea occurred prior to or coincident with the onset of symptoms in 15 cases.

The relative well-being and good nutrition, even obesity, which were usually maintained till the last stages of the disorder, are in contrast to the wasting usually met with in hepatic cirrhosis. When obesity, together with amenorrhoea and hirsuties, is combined with acne and on occasions abdominal striae, a resemblance to Cushing's syndrome is apparent (Bongiovanni and Eisenmenger, 1951).

In the first case presented here an illness resembling acute virus hepatitis with jaundice preceded the more florid aspects of the illness, although a history of excessive bleeding and possible naevi antedated this episode. In the other two cases no history suggestive of an attack of acute hepatitis was obtained, and most of the cases described by Bongiovanni and Eisenmenger (1951) and by Bearn *et alii* (1956) had an insidious onset with no apparent history of acute hepatitis. Pathological study by Bearn *et alii* (1956) disclosed a coarsely-scarred liver, differing from the more finely hobnailed liver of Laennec's cirrhosis, with large nodules of hyperplasia such as have been found as a sequel of virus hepatitis (Kunkel *et alii*, 1950).

The cause of the amenorrhoea and virilism in this group of cases has not been clearly demonstrated. Some evidence of disturbed adrenal function with excessive desoxycorticosterone-like effect has been found by Bongiovanni and Eisenmenger (1951), who reported depressed urinary output of 17-ketosteroids, increased output of urinary "corticoids" and marked reduction of sodium content in urine, saliva and sweat. The finding of depressed output of 17-ketosteroids is in contrast to the rather high output found in two of the present cases. A markedly raised plasma gamma globulin level was found in one of these cases, and had been found by Bongiovanni and Eisenmenger (1951) and by Bearn *et alii* (1956).

In view of the frequency in latter years of epidemics of acute infectious hepatitis, if this syndrome is indeed a sequel of hepatitis in young women, it is likely that liver disease will not infrequently be met as the basis of amenorrhoea. The recognition of this entity as a cause of amenorrhoea in young women is considered important, not only because the prognosis is usually not favourable, but more especially because in the experience of Bearn *et alii* the administration of oestrogens may precipitate an exacerbation of the disorder. The experience with this small group of three cases can throw no light on this possibility, but it is noted that the two patients who died had been given oestrogens in the three months prior to their death, the third surviving patient not having received oestrogens.

Another feature of these case reports is the occurrence of dyspepsia of no specific pattern. Two of the three patients gave histories of recurrent indigestion with anorexia and nausea, and of retching and epigastric discomfort usually soon after meals, which led to appendicectomy and which would not, it is thought, have been recognized as due to liver disease had not other evidence been present such as signs of virilism and spider naevi. When the possibility of liver disease is entertained, a careful search for spider naevi may be rewarding, although it is recognized that these naevi may be found in other conditions such as pregnancy and even in healthy people (Bearn, 1945). In Case III only one naevus was found; in Case II only two imperfectly developed naevi were found, although later a profuse crop of naevi rapidly appeared.

#### Summary.

Three young women presented with amenorrhoea and virilism as a prominent feature of liver disease. As well, other features unusual in cirrhosis of the liver were a healthy appearance and good nutrition or even obesity. The association of amenorrhoea, hirsuties, obesity, acne and less commonly abdominal striae invites a comparison with Cushing's syndrome. Although there was no history of acute hepatitis, reported pathological studies have disclosed a coarsely scarred liver with large hyperplastic nodules such as may follow acute virus hepatitis.

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#### Reviews.

**Psychological Stress: Psychoanalytic and Behavioral Studies of Surgical Patients.** By Irving L. Janis; 1958. New York: John Wiley and Sons, Incorporated. 9" x 5½", pp. 461, with illustrations. Price: \$6.95.

THIS book is well presented—it is extensively documented, and it contains a useful bibliography. The format and printing, in modern American style, make reading pleasant and the finding of references easy.

The author, Irving L. Janis, is a lay psychoanalyst who, during a psychological research project, had as a patient a neurotic woman who was to undergo an operation on her leg. He was able to study her while she was under the stress of anticipation and subsequently. Impressed by the impact which this situation made on the analytical material, the author thought that surgical procedures might offer an opportunity for the study of stress behaviour. In order to widen the field of reference, he then made a "before and after" study of 22 surgical patients. In addition, a questionnaire was submitted to 149 adolescents (aged 17 to 21 years) seeking their reactions—to the best of their recollection—to major and minor surgical procedures.



Without attempting to be exact, Dr. Janis has grouped his material into categories characterized by "anticipatory degrees of fear"—low, medium or high. His conclusion is that those persons who show a moderate degree of anticipatory fear before being exposed to pain, discomfort or severe deprivation are less likely to develop emotional disturbances during or after the stress than are those who show a high or low degree. Those having a low degree are more likely to show anger and resentment towards authority when exposed to actual stress situations.

Bearing in mind the author's orientation, we think that the reader would need a moderate acquaintance with psychoanalytical theories in order to follow the argument with any interest. Dr. Janis has a refreshingly critical attitude to these theories, and he emphasizes the need for further clinical studies.

The subject of stress is treated verbosely and at length. A great deal of space is devoted to theoretical considerations and discussion. A research project justifies such elaboration, but the actual amount of clinical material (23 cases) is surprisingly small, and would hardly permit any serious conclusions. The subtitle might suggest that the book would be useful in particular to the surgeon, but we cannot see that he would bother to read it. Within its limitations it will be of interest to psychiatrists and psychologists. It reveals its author as a person of great industry and extensive knowledge.

**A Handbook of Obstetrics and Gynaecology for Nurses.** By Douglas G. Wilson Clyne, B.M., B.Ch., M.A., L.R.C.P., F.R.C.S. (Edin.), M.R.C.O.G.; 1958. Bristol: John Wright and Sons, Limited. 7½" x 4½", pp. 208, with 53 illustrations. Price: 15s. (English).

THE training of a nurse of necessity embraces a very wide field, including as it does all aspects of medical and surgical nursing. In order that she may qualify for a general certificate, instruction in gynaecology and obstetrics forms only a part of her education, but quite an important part none the less. In the writing of a handbook for nurses some simplification and avoidance of the abstruse are essential; on the other hand, it must be something more than a rule-of-thumb first-aid book. We believe that in the present handbook, Douglas G. Wilson Clyne has satisfactorily effected this very necessary compromise. If there has been any omission, it is in dealing with the emotional aspect of this specialized branch of nursing. In the care of gynaecological and maternity patients, with their associated intensely personal problems, much tact and sympathy are called for from their nursing attendants, and some instruction in this direction, though not of much academic benefit, might make for better nursing in the highest sense of the word.

Although there are parts of the book—for example, the details of operations—not required by the trainee for examination purposes, these add to its value as a reference for the post-graduate in charge of a gynaecological ward or in the operating theatre assisting with gynaecological operations.

Well supplemented with numerous explanatory line drawings and diagrams and photographs of instrument trolleys, the text is set out in orderly fashion and, for the most part, in language readily understandable by the student nurse. Like most works of its kind, it is no doubt intended to be complementary to a course of set lectures given by someone who must, of course, be *au fait* with its subject matter, so as to guide the nurse in her reading, stressing the essentials and adapting it, where this is occasionally necessary, to local routines and teaching.

The major portion of this handbook is devoted to gynaecology, the last seven chapters dealing with obstetrics. All in all, this is a very useful little volume, easy to read, packed full of sound information and completely detailing all the practical aspects of the various gynaecological ward and operating theatre procedures and the post-operative nursing of gynaecological patients.

**The Year Book of General Surgery (1953-1959 Year Book Series).** Edited by Michael E. De Bakey, B.S., M.D., M.S.; 1958. Chicago: The Year Book Publishers. Melbourne: W. Ramsay (Surgical), Limited. 7½" x 5", pp. 592, with 149 illustrations. Price: 82s. 6d.

THIS "Year Book" is edited, as was the previous volume, by Michael E. De Bakey, and the section on anaesthesia is once more edited by Stuart C. Cullen. There have been a few alterations to the table of contents, but basically they are the same. In his introduction the editor refers to "the shifting interest and emphasis in various lines of endeavour that takes place from time to time", which he

believes is "one of the most exciting aspects of surgery, and for that matter of medicine in general". He points out how sometimes this is inspired by "serendipidity", sometimes it is the result of long investigation, new developments in technique and apparatus, or new ideas and working hypotheses. The new orientation may lead to maintained interest or increasing activity, or on the other hand the new development may lag. It is the function of the "Year Books" to reflect these trends, which in the first place are reflected in the literature. This volume amply fulfils its obligations in this regard, and will be a valuable addition to the bookshelves of any general surgeon.

## Books Received.

[The mention of a book in this column does not imply that no review will appear in a subsequent issue.]

"Smoking and Lung Cancer", by T. W. Lees, M.D.; 1959. Lanarkshire: T. W. Lees (Publisher). 8½" x 5½", pp. 32, with illustrations. Price not stated.

An examination of the evidence.

"A Short Textbook of Radiotherapy: For Technicians and Students", by J. Walter, M.A., B.M. (Oxf.), M.R.C.P. (Lond.), F.F.R., D.M.R.E. (Camb.) and H. Miller, M.A., Ph.D. (Camb.), F.Inst.P.; Second Edition; 1959. London: J. & A. Churchill Limited. 9" x 5½", pp. 540, with 303 illustrations. Price: 56s. (English).

The book has been fully revised since the first edition of 1950.

"Applied Anatomy for Nurses", by E. J. Bocock, S.R.N., S.C.M., D.N., and R. Wheeler Haines, M.B., D.Sc., F.L.S.; Second Edition; 1959. Edinburgh and London: E. & S. Livingstone Limited. 8½" x 5½", pp. 338, with 326 illustrations. Price: 17s. 6d. (English).

The first edition appeared in 1951.

"Miscellaneous Notes (Second Series)", by F. Parkes Weber, M.D., F.R.C.P., F.S.A.; 1959. London: H. K. Lewis & Company Limited. 7½" x 4½", pp. 20. Price: 5s. (English).

A collection of short reminiscences.

"Methods of Biochemical Analysis", edited by David Glick, Volume 7, 1959. New York, London: Interscience Publishers, Inc. 9" x 6", pp. 362 with illustrations. Price: \$9.50.

The emphasis of this series is on methodology and instrumentation.

"Worth and Chavasse's Squint: The Binocular Reflexes and the Treatment of Strabismus", by T. Keith Lyle, C.B.E., M.A., M.D., M.Chir. (Cantab.), M.R.C.P. (Lond.), F.R.C.S. (Eng.), and G. J. O. Bridgeman, M.C., M.A., M.B., B.Chir. (Cantab.), F.R.C.S. (Eng.); 1959. London: Baillière, Tindall & Cox. 9½" x 7½", pp. 402, with 214 illustrations. Price: 52s. 6d. (English).

The greater part of this book has been rewritten and rearranged since the previous edition appeared nine years ago.

"Hernia", by Sir Heneage Ogilvie, K.B.E., M.A., M.Ch., M.D., F.R.C.S.; 1959. London: Edward Arnold (Publishers) Limited. 8½" x 5½", pp. 144, with 51 illustrations. Price: 28s. (English).

The author presents views that are "personal and dogmatic rather than transcriptive and obsequious".

"Annual Review of Medicine", edited by David A. Ryland, and William P. Creger, Volume 10, 1959. California: Annual Reviews, Inc. 8½" x 5½", pp. 456. Price: \$7.50.

A review of current advances.

"Symposium Geneticae Haematologicae", 1959. Rome: Acta Geneticae Medicae et Gemellologiae. 10½" x 7½", pp. 178, with illustrations. Price not stated.

A symposium which formed part of the Seventh Congress of the International Society of Hematology. The papers are in Italian, English, French or German, according to their original presentation, with an English summary in each case.

# The Medical Journal of Australia

SATURDAY, OCTOBER 3, 1959.

## HEALTH EDUCATION.

THE aim of health education, according to a recent report of a WHO expert committee,<sup>1</sup> is to promote the greatest possible fulfilment of inherited powers of the body and mind, and the happy adjustment of the individual to society. As the educational approach to health problems, it is concerned with practical measures for the promotion of health and control and treatment of disease. The report goes on to point out that health and disease depend on two factors, heredity and environment. "Heredity determines what the individual could become: the interaction between this and the environment determines what the individual actually does become." Since human knowledge and volition are the main factors in controlling the environment, the quality of health education plays an important part in shaping the destiny of mankind. This provides food for serious thought, and it seems very much to the point to suggest at this stage that an important element in the quality of health education is its acceptability. It is true enough that, as the report states, people everywhere, irrespective of their level of education and sophistication, have a common instinct for self-preservation which provides a strong motive to pursue health. At the same time, such is the curious nature of man that he is almost instinctively suspicious of "being done good to". Very much more now than ever in the past the knowledge and the means are available for the intelligent promotion of health, so that it becomes more than ever necessary to break down resistance to health education and to present it with subtlety and skill. The report of the WHO expert committee stresses the fact that today, with the enormous opportunity implicit in the widespread availability and use of scientific knowledge, the attainment of a state of well-being rests to a considerable extent upon personal resolve. "Resolve depends upon attitude, attitude upon insight and insight upon knowledge, experience and feeling. The methods of health education have developed with the specific aim of helping people to make choices about health more wisely." Thus health

education is not merely health propaganda or instruction. "It aims at enabling the learner—the consumer—to make his own choices and decisions about health matters, and at providing experiences which will develop insight and understanding and facilitate individual action."

The whole approach towards health education will necessarily differ from country to country and from community to community. The requirements of a primitive community are not those of a sophisticated or highly industrialized community. In some countries a great deal must depend upon the specially trained worker in health education, who is not necessarily a medical practitioner. In others the medical practitioner will be the main agent. Some may wish to maintain that he should always be the agent in health education if this is at all possible, and the point is well taken. It must, however, be qualified. The report of the WHO expert committee readily gives first place to the medical practitioner in this field, but it is a realistic and informed report and must be listened to when it says that physicians frequently carry on health education without real awareness of the educational needs of the patient and with inappropriate methods. For their opportunities to be more adequately used, certain prerequisites are necessary. "Firstly the most useful results occur when the physicians are sensitive and alert to the educational possibilities in the patient-doctor relationships. For busy practising physicians this is not easy. However, evidence exists that valuable organized health education activities with patients can be arranged particularly when physicians are organized in group practice. More specific training would enable doctors to become more conscious of their educational influences."

Whether or not it is practicable or necessary for doctors in this country to have "more specific training" is something to think about. It is certainly reasonable to suggest that, with the high proportion of doctors in our population and their high standing and influence in the community, their role in this field is of the first importance and warrants more thought than it usually gets. At the same time it will be conceded that a good deal of health education work must remain in the hands of governmental health authorities and the like. This has been recognized in all States of the Commonwealth, each of which has approached the problem in its own way. Details of what is being done warrant survey on another occasion; but it is interesting to realize that ours is accepted as a sophisticated society with problems very different from those of a primitive community. We are not concerned to the same extent with infectious diseases, with child welfare as a social problem, with difficulties of childbirth, with the needs of the underprivileged and so on, although these are important in any community and must receive attention. Experience apparently indicates that the matters of greatest concern in a society such as ours are heart disease, cancer, accidents on roads, in industry and in homes, and threats to mental health. These are not just the "killers" but, what is in some ways even more important, the enemies of happiness and efficiency in both individual and

<sup>1</sup> "Expert Committee on Training of Health Personnel in Health Education of the Public, Report", World Health Organization Technical Report Series, No. 156; 1958. Geneva: World Health Organization. 9½" x 6½", pp. 40. Price: 1s. 9d.

<sup>2</sup> *Health. Journal of the Commonwealth Department of Health*, 1959, 9: 39 (June).

community. We should like to think that all doctors had constantly in mind their possible contribution to the education of the community in combating these assailants of our well-being, whether as private medical advisers, as members of an influential and specially informed group or as responsible citizens. One immediately relevant subject on which they might well be exercising their thoughts and influence on all these levels is smoking as a contributory cause of lung cancer.

## Current Comment.

### NEW AIDS TO RESPIRATION.

THE development of respirators from the first "iron lung" invented by Philip Drinker in 1929 is summarized in an article in the report of the British Medical Research Council for 1956-57. In this it is pointed out that breathing machines have become increasingly important in medicine, not only in the management of cases of respiratory paralysis, but also in the field of anaesthetics and in conditions such as bronchitis with emphysema, tetanus and traumatic accidents. However, the great stimulus in the development of modern breathing apparatus has undoubtedly been the poliomyelitis epidemics of the last thirty years. Finality has not been reached, and the diversity of needs continues to produce a diversity of fresh ideas for the improvement of accepted types of apparatus and the development of new types. Till recently the patient with respiratory paralysis was perforce confined to his "tank", in the more severe cases with no prospect of ever leaving it. Patients have even been married in such machines. The introduction of the cuirass-type respirators has been a great step forward for those patients well enough to make use of them. The rocking bed enables certain patients in the recovery stage to sleep in comfort, at least for limited periods, free from all encumbrances. Two other new ideas for patients with lesser degrees of respiratory incapacity have recently been described. James Macrae, R. V. Walley and H. K. Lucas,<sup>1</sup> of Bristol, state that the Monaghan cuirass respirator is not easily manageable and is very heavy, so they attempted to devise a simple apparatus which would be truly portable as well as reliable. After various experiments with different types of blower, they found a small, commercially-available vacuum-cleaner (Hoover "Dustette") which was convenient for their purpose, and was made to operate off a 12-volt battery. The collecting-bag assembly is replaced by an aluminium alloy plate, from which a plastic tube leads to a mouth-piece consisting of a short length of plastic tubing. To breathe in, the patient holds the mouth-piece loosely between his teeth and closes his mouth and nasopharynx. To breathe out, he shuts off the mouthpiece by biting on it firmly and exhales through his nose. The inventors state that a humidifier does not appear to be necessary, that the simple breathing movements are easily mastered, and that the patient can readily control inspiration and vary its volume at will. They have tried this apparatus with five patients with vital capacities of about 300 c.cm., and found that with it a "vital capacity" of 1500 c.cm. could easily be achieved. Talking is possible while the machine is in use, and it can be used either intermittently or for long periods. It has the important advantages of being simple, relatively light, relatively inexpensive, and socially inconspicuous. One patient with a vital capacity of 250 c.cm. made a journey of 180 miles by train and ambulance with the aid of this apparatus alone. For others it has made motor trips possible for the first time. This apparatus has obvious limitations, but it would appear to be of great potential value for those patients whose main disability is a seriously diminished vital capacity.

<sup>1</sup> *Lancet*, 1959, 1: 452 (February 28).

Also inspired by the cumbersome nature of existing apparatus, J. P. Adamson, L. Lewis and J. D. Stein, of the Stamford University School of Medicine, have used a very different approach to the problem.<sup>2</sup> They have evolved an intermittent abdominal pressure respirator, which they refer to as IAPR. This consists of an elastic inflatable flat bladder incorporated within an abdominal corset. As the bladder inflates, the abdominal wall is compressed, the diaphragm rises and expiration occurs; when the bladder deflates, the abdominal contents and diaphragm fall and inspiration occurs passively. It is necessary that the patient should be propped up for this system to function, and most patients have found an inclination of 30° to be the minimum at which they can obtain adequate ventilation; the apparatus reaches its maximum efficiency when the patient's trunk is at an inclination of 75°. Cyclical inflation of the IAPR is provided by a specially constructed respirator pump with a flexible light-weight plastic hose connexion. A pressure of 50 cm. of water was found to provide adequate ventilation for all patients tried, and was not uncomfortable. Adamson and his colleagues have used this machine mainly with poliomyelitis victims, and have found it very useful in giving patients greater freedom while engaged in rehabilitation activities of one kind or another. They also suggest that it may have a useful place in the management of patients with pulmonary emphysema, in which condition it would appear to be mechanically sounder than the more commonly employed positive pressure breathing devices. Further investigation into the use of the IAPR in this condition is in progress.

### THE ORIGIN OF BLOOD GROUP ANTIBODIES.

ONE of the basic facts of blood group serology is that after the neonatal period, an individual possesses in his serum antibodies to whatever antigens of the ABO blood group system are lacking from his cells and secretions. Thus, a group A person has anti-B in his serum, a group B person has anti-A, a group O person has both anti-A and anti-B, and a group AB person has neither antibody. This phenomenon occurs with such regularity that it has all the force of a biological law and is known as Landsteiner's Law. In the past these so-called "natural" antibodies were regarded as inborn characteristics of the individual, but a few years ago A. S. Wiener<sup>3</sup> suggested that they were probably not inborn but were acquired early in infancy. He thought that, as antigens closely resembling the A and B substances responsible for the antigenic characteristics of blood groups exist widely in nature in animal tissues and in bacteria, it is inevitable that everybody will be exposed to these antigens, particularly those of bacterial origin, and will respond by producing antibodies. Since, in accordance with Ehrlich's concept of *horror autotoxicus*, the body does not, as a rule, tend to form antibodies against its own antigens, the antibodies formed by an individual will be only those whose corresponding antigens are lacking from his cells and secretions.

Recently H. J. Pettekofer and his associates<sup>4</sup> have produced evidence as to the actual source of the antigens responsible for the normal production of blood group antibodies. After discussing earlier work demonstrating the presence of substances in bacteria related to blood group antigens, they describe their own work on the demonstration of such antigens in enteric organisms, particularly in *Escherichia coli* 86. It was known that this organism contained a substance closely allied to B substance, so these workers set out to determine whether it contained a substance allied to A substance also. In their experiments they used antibodies both of human and of animal origin. It has long been known that rabbits are divided into two groups. The members

<sup>2</sup> *J. Amer. med. Ass.*, 1959, 169: 1613 (April 4).

<sup>3</sup> *J. Immunol.*, 1951, 66: 287.

<sup>4</sup> *Blut*, 1958, 4: 378.



of the first group, the "A animals", possess an A-like substance, while members of the second group, the "anti-A animals", lack this substance but have an antibody in their serum reacting with A cells. Pettenkoffer and his colleagues found that A animals, after injection with *E. coli* 86, formed anti-B only, but the anti-A animals, after injection, formed both anti-A and anti-B. When human serum from group O individuals was absorbed with the organism, both anti-A and anti-B were removed. When serum from group A individuals was absorbed, anti-B was removed, and when serum from group B individuals was absorbed, anti-A was removed. Similarly the anti-A and anti-B formed in rabbits by the injection of *E. coli* 86 could be absorbed by that organism. Rabbit anti-A and anti-B could also be absorbed by saliva from human secretors of the appropriate antigen. These experiments proved that an A-like, as well as a B-like substance was present in *E. coli* 86. Fourteen other strains of *E. coli* gave similar results, but their reactions were weaker. A strain of *Lactobacillus bifidus* was tested for the presence of blood group substances. Twelve rabbits were injected with the organism, but no anti-A or anti-B was formed. Moreover, the organism failed to absorb anti-A or anti-B of either human or animal origin.

In conclusion, Pettenkoffer and his colleagues point out that in the neonatal period the predominant organism in the gut is *Lactobacillus bifidus*, which they have shown to be devoid of blood group substances, but that later the gut becomes colonized with *E. coli*, which they have shown to contain A-like as well as B-like substances. Furthermore, the appearance of iso-antibodies in the serum coincides in point of time with the appearance of *E. coli* in the gut. They suggest, therefore, that their experiments lend support to Wiener's view that the blood group antibodies are acquired as the result of immunization in early life. Their hypothesis that there is a causal relationship between the appearance of blood group antibodies and the colonization of the gut by *E. coli* is certainly a very attractive one, but further research will be necessary before it can be finally accepted.

#### DISPELLING FALSE NOTIONS ABOUT MENTAL HYGIENE.

"The teaching of mental hygiene should be incorporated in the training of members of professions who have to deal with people, particularly policemen, teachers and administrators. Psychology teaching in elementary schools would help children in practical ways to get on with the business of living, would increase their tolerance for peculiarities in other persons and would help to dispel false notions about mental illness." These were among views expressed by an international conference on mental hygiene convened by the World Health Organization in Helsinki recently. It was attended by psychiatrists, general practitioners, nurses, social workers and psychologists from 26 European countries. The conference emphasized that more people should realize that most cases of insanity can be cured, that insanity is not infectious, that delinquency is not inherited from father to son and that there is no scientific evidence to show that one race of human beings is more intelligent than another. During the conference it was brought out that approximately two million Europeans are hospitalized with mental illness, one million of these with schizophrenia, and that neurosis is second only to the common cold as a cause of absence in industry.

The conference was divided on the question whether violent and sexy books, films or comics encourage mental stress and delinquency. It was agreed, however, that child reactions to sensationalism needed further study. It was wrong to give children the impression that the adult world was nothing but cruelty and lust, but it was also wrong to bring them up in complete ignorance of the crimes that were committed in the world. Nor should children be brought up without coming in contact

with persons having severe mental or physical handicap. Ignorance of their less fortunate brothers and sisters was poor preparation for the setbacks that normal children might experience later on, either to themselves or in their families.

In the view of the conference, policemen, teachers and administrators should not be trained to become amateur psychiatrists, but mental health teaching should help them to carry out their jobs more efficiently. It was the responsibility of the professions themselves to incorporate mental health teaching, and this should be geared to their professional practice. Many cases of mental illness might be brought forward through the cooperation of such professions. In early cases those affected could be treated more efficiently, more rapidly and at smaller expense. A number of suggestions were made at the WHO conference for strengthening medical education. In general, the conference was of the view that great possibilities for dealing successfully with mental illness were opening up; that did not necessarily mean that more doctors would be needed. Mental health questions should, it was proposed, receive more attention in medical schools than they generally did. It was also suggested that students should spend less of their time studying corpses and more of their time studying the living, and that instead of a series of "cases" they should follow one family through health and disease over a number of years. In that way, students would learn to see the human being as a whole, and not, as so often happened in hospital, as "the heart in bed five". It was agreed that specialized mental health services should be part of the general health service and that all health services should play a role in mental health. Particular attention was paid to the public health nurse and to the part she could play in preventing and treating mental illness.

#### INFANT MORTALITY IN INDIA.

PROFESSOR S. CHANDRASEKHAR, Director of the Indian Institute for Population Studies, has written a review of infant mortality in India over the years since 1900. He begins with an analysis of the census and vital statistics in India, then passes on to the measurement of infant mortality and to a comparison of the rates in India with those in the rest of the world. He discusses next the infant mortality by cause, and finally details the programme to be followed in the fight to reduce it. Of course, it is very difficult to obtain accurate infant mortality statistics for the whole country, and most published figures have been for the cities. At the beginning of the century the rate was about 220 infant deaths per thousand births, and it has since fallen to about half that value. In some places, the rates have been higher. Thus in 1939-1940 in Bombay, the rates varied between 68 in Europeans, 100 in Parsees, 182 in Muslims and 257 in the "scheduled castes" or untouchables. In this last group the rates were still over 300 in 1946-1947, whereas in the other groups improvements had occurred. The rates were even higher in Calcutta, but lower in the rural districts. Neonatal mortality is high, especially in the cities, when the mother has to go out to work. The author outlines some of the defects of medical care, especially the lack of trained midwives. Suffocation in the cradle made by a folded sari seems not to be uncommon; but we may suggest that these could be really deaths due to infective causes, as has been found in "overlaying" here and in England. The author finally calls for better statistics to measure the problem, spacing of births, ante-natal supervision and better obstetric and paediatric care. We may hope that increased prosperity and education will bring about these possibilities.

<sup>1</sup> "Infant Mortality in India, 1901-55: A Matter of Life and Death", by S. Chandrasekhar, with a Foreword by Professor Philip M. Hauser; 1959. London: George Allen & Unwin, Limited. 8½" x 5", pp. 176. Price: 20s. (English).

## Abstracts from Medical Literature.

### DERMATOLOGY.

#### Basal Cell Epithelioma Followed by Tuberculous Lupus.

A. RAVINA AND E. PERTHAIN (*Presse méd.*, March 7, 1959) report the case of an elderly woman who had a basal cell epithelioma treated by contact radiotherapy, with complete cure. Four and a half years later, agminated non-ulcerative tuberculous lupus planus developed in the exact spot where the epithelioma had previously been. The authors state that the most likely pathogenic hypothesis seems to be that of a delayed allergic reaction set off by the X rays. They discuss in detail their reasons for this conclusion.

#### Griseofulvin in Resistant Mycoses.

E. SIDI AND J. B. SPINASSE (*Presse méd.*, May 30, 1959) present the results of a clinical trial of griseofulvin in the treatment of resistant mycotic infections of the skin, scalp and nails. There were 20 patients, suffering from tinea, onychomycosis, pityriasis versicolor and pompholyx. The authors state that these first results are encouraging. The drug seems to be effective, particularly in very resistant mycoses like tinea and the onychomycoses. It is excellently tolerated, and although, like penicillin, it might be thought likely to aggravate certain dysidroses, no cross-sensitization between the two antibiotics occurred in the series. However, it is too soon to draw final conclusions. Further investigation is required on a larger number of patients if it is desired to determine exactly the strains of fungus which are sensitive to griseofulvin, and to ascertain whether recurrences or reinfections take place after treatment has been stopped. Investigations are also required on the antimetabolic effect of this antibiotic. The authors believe that the discovery and introduction of this agent have opened up a particularly interesting new field of investigation in dermatology.

#### Vitiligo.

A. L. LORINCZ AND S. ROTHMAN (*Med. Clin. N. Amer.*, May, 1959) discuss the disturbances of melanin pigmentation and their management. Under the sub-heading "Pigmentary Deficiencies", they discuss the management of leucodermas and vitiligo, which they state is generally unsatisfactory. Patients suffering from vitiligo should avoid exposure to sunlight, which enhances tanning of normal areas. The freshly cut surface of green black walnut rubbed into lesions produces a particularly satisfactory cosmetic staining of the lesions which may resist washing for several weeks. The long-advocated application of furanocoumarin (psoralen) photosensitizer coupled with repeated sunlight or ultra-violet irradiation for the treatment of vitiligo has been much elaborated upon in the past decade since the isolation of 8-methoxypsoralen (8-MOP). Both local and systemic administration of the oxypsoralens in conjunction with repeated exposures to

ultra-violet rays with wavelengths between 2500 Å and at least 3600 Å have been found effective on occasions in inducing return of pigment in some patches of vitiligo. Local application of the psoralens has been largely abandoned because of frequent violently blistering photosensitization reactions. At the present time 8-MOP is administered to adults orally in a single dose of 20 mg. daily, followed two or four hours later by exposure to sunlight for five minutes initially, and then for increasingly longer times up to 30 minutes daily. Although after many weeks or months on such a regime repigmentation may occur in some lesions, it is generally incomplete and the cosmetic result is probably satisfactory in less than one out of seven cases. Lesions in the hands almost never repigment. In the usual case increased tanning of normal areas surrounding the lesions only makes them more conspicuous. Because of these drawbacks the authors consider that use of 8-MOP cannot be generally recommended for the treatment of a benign cosmetic disorder such as vitiligo. The occurrence of cataracts in psoralen-treated animals exposed to long wavelength ultra-violet light is regarded as an especially alarming fact.

#### The Cutaneous Reaction to Nicotinic Acid Furfuryl.

T. W. MURRELL AND W. M. TAYLOR (*A.M.A. Arch. Derm.*, May, 1959) describe an investigation of the cutaneous reactions to nicotinic acid furfuryl (the tetrahydro-furfuryl ester of nicotinic acid) in various disease states. The authors state that there is evidence that a thorough knowledge of this subject might lead to a better understanding of the pathogenesis of atopic dermatitis. A total of 183 patients with various diseases were tested with 5% nicotinic acid-furfuryl ointment. A typical reaction was noted in patients with active rheumatic disease and atopic dermatitis. Patients with uncontrolled diabetes mellitus were found to be unreactive or questionably reactive to nicotinic acid-furfuryl ointment as compared with those with controlled diabetes. Patients with mental disease react to nicotinic acid-furfuryl, as do normal persons. The nicotinic acid-furfuryl reaction was not altered by coenzyme I or antihistamines. Internal administration of nicotinic acid slightly alters the reaction. Steroids administered internally do not directly affect the reaction; locally applied, they do not alter the cutaneous response. The mechanisms involved in the nicotinic acid-furfuryl test remain unexplained.

#### Dermatitis Herpetiformis.

M. J. COSTELLO (*Med. Clin. N. Amer.*, May, 1959), in an account of the diagnosis and modern treatment of the bullous dermatoses, includes a discussion of dermatitis herpetiformis (Duhring's disease). In the typical case the eruption consists of generalized, symmetrical hand-sized, well circumscribed, excoriated patches enclosing lesions in all stages of development from the urticarial papule, to the vesiculo-bullous, ruptured, eroded lesion and the mottled areas of hyperpigmentation, hypopigmentation and depigmentation. The vesicles are herpeti-

form on a background of pinkish erythema and oedema or grouped in herpetetic appearance and arrangement. The mucous membranes are rarely involved. The elbows, knees, nails, back, scalp and face are sites of predilection. Systemic treatment consists of the administration of sulphonamides. Sulphapyridine given daily is almost specific in the control of this condition, sufficiently so to be used as a therapeutic test. Some patients are maintained free of the eruption with as little as 0.5 gramme daily, although most require 0.5 gramme three times a day. Because of its toxicity, sulphapyridine should not be administered unless the patient is apprised of the risk involved and is willing to assume it. Sulphapyridine seldom cures dermatitis herpetiformis, but when taken faithfully it can achieve complete symptomatic control of the disease, with long therapeutic remissions. Nearly all other sulphonamides are relatively ineffective in the treatment of dermatitis herpetiformis. Recently, excellent therapeutic response has been obtained with "Promacetin" in doses of 0.5 to 1.0 gramme given four, six or eight times a day. In recent months the author has used with considerable success "Diasone" (aldesulphone), 0.33 gramme two or three times a day. He concludes with the statement that, as with all sulphonamides and sulphones, blood studies should be performed regularly, because of the potential toxicity of the drug.

#### Keratosis Blennorrhagica.

J. ALBERT AND R. CRONE (*A.M.A. Arch. Derm.*, May, 1959) state that the keratotic skin lesions of keratosis blennorrhagica, which usually follow gonorrhoeal urethritis and polyarthritis, have been treated with many drugs, but that none has found universal approval. In recent years the antibiotics and the corticosteroid hormones have been used with varying success. The authors review some of the literature on treatment and report their experience with the use of antibiotics and corticosteroid hormones. Two patients with keratosis blennorrhagica are discussed. There was prompt clearing of the first patient's skin lesions when a ten-day course of penicillin and streptomycin was given during the second month of his illness, but this had little effect on his arthritis. The second patient showed a complete and striking response to prednisolone, after other therapy, including ACTH and various antibiotics, had failed. It is suggested that prednisolone should be used in future cases of keratosis blennorrhagica in order further to evaluate its effectiveness.

#### Treatment of Acute Parapsoriasis with Corticotrophin.

R. K. WINKELMANN (*A.M.A. Arch. Derm.*, May, 1959) reports a case of acute parapsoriasis treated with corticotrophin (ACTH). Acute guttate psoriasis or pityriasis lichenoides et varioliformis acuta is a definite entity. Microscopic hemorrhage is the typical histological finding. The case is reported as representing the first instance of successful treatment of acute parapsoriasis based on the concept of the disease as an anaphylactic purpura. The patient was given an initial dose of 10 units of ACTH intravenously and



"Benadryl" by mouth; on the second and third days he received 40 units of ACTH intravenously, and on each of the subsequent four days he was given 20 units of ACTH intravenously. He was dismissed from hospital on the eighth day, at which time his condition was greatly improved. Nine months later, the patient did not have any lesions and was healthy in every respect.

#### The Relationship of Systemic and Discoid Lupus Erythematosus.

A. SCOTT AND E. G. REES (*A.M.A. Arch. Derm.*, April, 1959) have investigated the relationship of systemic and discoid lupus erythematosus by a close follow-up of 118 patients with a diagnosis of either systemic or discoid lupus erythematosus, over periods ranging from two to 21 years (mean time, eight years). One hundred and two of these had discoid lupus erythematosus. A grouping of patients was made on the basis of their clinical history, physical examination, and laboratory investigation. The L.E. phenomenon was studied in all these patients as well as in a large control group. The result of the L.E. tests closely paralleled the clinical appraisal. Using strict criteria for the diagnoses of systemic lupus erythematosus, the authors were able to make that diagnosis in only 12% of their group of patients with discoid lupus erythematosus, but there was reason for believing that this figure might be an exaggerated one as the sample was not an unselected one. The authors therefore consider that no final conclusions could be made regarding the pathogenic relationship of the two disorders.

#### Alopecia Mucinosa.

W. C. JOHNSON, R. S. HIGDON AND E. S. HELVIG (*A.M.A. Arch. Derm.*, April, 1959) present a report of a study of the clinical records, pathological material, and follow-up data of eight patients with alopecia mucinosa. Clinically, the process is characterized by single or multiple mildly erythematous plaques associated with loss of hair. In six patients the eruption became widespread and chronic. In the authors' opinion, the pathogenesis of alopecia mucinosa as a clinical and pathological entity is primarily a change in the epithelial cells within the pilosebaceous follicle, which results in the accumulation of mucin, inflammation in the corium being secondary. The mucinous material is an acid mucopolysaccharide and consists of hyaluronic acid, or chondroitin sulphate, or both. The authors interpret the lack of contagion, the chronicity and recurrent nature of the eruption, and the histochemical similarity of the mucin to that seen in myxodema as indicating a metabolic process.

#### Erythema Multiforme Caused by Penicillin.

H. S. YOFFEE (*A.M.A. Arch. Derm.*, May, 1959) reports a case of erythema multiforme (Stevens-Johnson syndrome) caused by penicillin. They state that in the past some authors were impressed with the specificity of antibiotics as the therapeutic agents of choice, but recently steroid hormones have been reported most frequently as successfully effecting a favourable outcome. The case reported is an example in which an antibiotic was

the suspected causative agent, the cure being attributed to corticotrophin (ACTH), administered intravenously in a dosage of 80 units over an eight-hour period; the dose was reduced as clinical improvement took place.

### UROLOGY.

#### Bladder Flap Tube in Urinary Tract Reconstruction.

I. TSUJI, K. KURODA AND H. ISHIDA (*J. Urol. (Baltimore)*, February, 1959), inspired by the urethroplasty work of Denis Browne, designed (in dogs) an attached tube made from the bladder wall. This was done so that, after an interval of five weeks or more, the tube could be detached at one end and extended from the bladder either to make a new urethra or a new lower ureter, as required. It has been found that, at the still attached end, the shape of the junction is such that a valve action opposes easy escape of urine from the bladder, thus preventing either reflux up the ureter or urethral incontinence, as the case may be. In the primary construction of the tube two parallel incisions, 1 cm. or more apart and 4 to 5 cm. long, are made in the suitable part of the bladder wall, through all coats. The ribbon of bladder wall is lifted up and the bladder edges are sutured, thus isolating the ribbon or flap which now lies flat on the closed bladder. As the weeks go on, this ribbon, which is superficial and not buried as in Denis Browne's work, gradually becomes cylindrical and forms a tube completely lined with mucosa, and surrounded by muscle tissue. There is continuity with the bladder cavity of each end of the new tube. In one human subject with complete traumatic urethral avulsion the flap-tube was easily separated from the bladder wall at a second operation. The proximal end was detached, and the tube turned down under the symphysis pubis and sutured to what corresponded to the former urethral part of the vestibule. The open and completely incontinent region of the internal meatus was closed with sutures. Six months after the second operation the patient passed urine six or seven times a day, and not at all at night.

#### Sulphamethoxypyridazine in Urinary Infections.

E. TRUC *et alii* (*Presse méd.*, March 14, 1959) have studied the use of sulphamethoxypyridazine in the treatment of urinary infections. Their clinical material consisted of 61 cases, distributed as follows: cystitis, 15 cases; prostatitis, three cases; orchido-epididymitis, four cases; pyelonephritis, five cases; lithiasis or infected hydronephrosis, five cases; hyperpyrexia resulting from non-localized urinary infection, seven cases; acute gonococcal urethritis, two cases. Sulphamethoxypyridazine was also used as a "cover" in urological operations, and in five more cases it was used in association with antibiotics because of the persistence of an elevated temperature or a rise in temperature. A variety of causal organisms was involved. The authors conclude that this drug, which is readily absorbed and well tolerated, because of its slow elimination, can be given in a

single daily dose, or in a very few daily doses. They consider it of great value in the treatment of all types of urinary infection including acute gonorrhoea.

#### Urinary Infections with *Aerobacter aerogenes*.

J. K. LATTIMER *et alii* (*J. Amer. Med. Ass.*, June 20, 1959) state that urinary infections due to resistant strains of *Aerobacter aerogenes* are becoming a serious problem in the eastern United States. This trend has only been noted since the widespread use of antibiotic therapy. Data were obtained from 20 strains of *A. aerogenes* and eight strains of *Escherichia coli* selected from patients with acute infections. The authors state that their study shows that the appearance of resistant forms is associated with chronic rather than acute infections. The seriousness of this situation has been reflected in the rising mortality whenever septicemia due to *A. aerogenes* is encountered. Drug resistance studies lead to the speculation that some antibacterial chemical may ultimately hold out more promise than antibiotic preparations. The present practice of the authors is to defer any operation or instrumentation of the urinary tract if *A. aerogenes* is known to be present, until resistance studies indicate that an effective drug, or combination of drugs, is available in cases of trouble.

#### Microbial Sensitivity Test in Urinary Infections.

K. A. MIAN (*J. Amer. med. Ass.*, June 20, 1959) states that genito-urinary infections rank second only to those of the upper respiratory passages in incidence. Despite the fact that the offending organisms can be isolated and identified easily, successful treatment often defies the medical attendant's ability. Once the focus, extent and type of the infective process have been defined, then the choice of an antimicrobial agent depends mostly on the sensitivity determinations. From a study of 6870 cultures from urinary infections over a period of six years in the author's hospital it is noted that Gram-negative bacilli occur almost three times as frequently as Gram-positive cocci. Tests were made on 789 specimens from patients with urinary tract infections, and the results proved to be a reliable indication of effective treatment in 98% of cases. The method of microbial sensitivity testing employed is a modification of the "base" and "seed layer" techniques, with 15% hemoglobin in the base layer as a colour indicator, and involves the use of a special culture medium and antibiotic disks. The tests can be set up in an ordinary clinical laboratory within 10 minutes, the results are easily read, and the same antibiotic impregnated disks can be used again. In this rapid method, interpretation is based on the presence or absence of bright red zones of inhibition around the disks; 70% of the tests in this series could be read in two to four hours, 92% within six hours, and only 2-8% required overnight incubation. The author states that it is therefore possible, by this method, to determine the morphology of the bacterial flora in a urine smear and ascertain the antibiotic sensitivities, all within a period which seldom exceeds five hours. Standard methods require 18 to 24 hours.



## The Wider View.

### PÆDIATRICS IN SOUTH-EAST ASIA.<sup>1</sup>

BEFORE discussing pædiatrics in South-East Asia, first let us consider what countries are included in that area. For Colombo Plan purposes, South-East Asia embraces most of the countries of southern and eastern Asia, countries which in W.H.O. grouping fall into three different regions—namely: India, Ceylon, Burma, Nepal, Thailand and Indonesia in the South-East Asia region; Pakistan in the Eastern Mediterranean region, and the remainder in the Western Pacific region—Cambodia, Laos, Vietnam, Japan, the Philippines and the British territories of Hong Kong, Singapore, North Borneo, Brunei, Sarawak and the Federated States of Malaya.<sup>2</sup>

It has been said that the infant mortality rate reflects the standard of health of a country. Comparison of the infant mortality rates of the South-East Asian countries with our own figure of 19 per thousand in Victoria (and 22 per thousand for Australia) does reflect the great difference which exists between our general standards of health and, in particular, of child health (Table I).

TABLE I.

Country.	1955 Population in Thousands.	Population Density per Square Kilometre.	1954 Birth Rate.	1954 Infant Mortality Rate.
Brunei .. ..	65	11	55.2	93.6
Burma .. ..	19,434	29	33.5	198.6
Ceylon .. ..	8589	131	36.2	72.0
China (Taiwan) ..	8907	248	44.5	30.1
Hongkong .. ..	2340	2310	36.6	72.4
India .. ..	381,690	116	25.8	114.2
Japan .. ..	89,100	241	20.1	44.6
Malaya .. ..	6058	46	43.8	83.1
North Borneo ..	372	5	33.3	104.0 <sup>3</sup>
Pakistan .. ..	82,439	87	21.3 <sup>3</sup>	110.3 <sup>3</sup>
Philippines .. ..	21,849	74	32.8	104.2 <sup>3</sup>
Sarawak .. ..	614	5	25.1	75.6
Singapore .. ..	1213	1635	48.0	56.0
Thailand .. ..	20,802	39	34.2	63.5

<sup>1</sup> 1951.

To determine the prevalence of diseases in childhood, an analysis of the causes of death by ages may be studied (where such vital statistics are available). Where a large proportion of the total deaths is due to malaria, tuberculosis, venereal disease, gastro-intestinal diseases and malnutrition, these diseases also account for a high mortality and morbidity in childhood. The causes of death show less variation at the different age levels than in countries of high health standards. To improve the standard of child health in South-East Asia, it is obviously necessary to attack these prevalent diseases on a community level. This is, in fact, being done with assistance from international agencies such as W.H.O., U.N.I.C.E.F. and the Colombo Plan.

It is relatively easy to reduce malaria infection by residual spraying, to give protection against typhoid, paratyphoid and cholera by immunization and against tuberculosis by B.C.G. vaccination, and to treat yaws by penicillin injections; but it is much harder to improve health habits and sanitation and so eradicate conditions such as amoebic dysentery, intestinal infestations and gastro-enteritis.

Raising the level of nutrition is not a rapid process either, dependent as it is on education, and on improvement of agricultural techniques and the general income level of the people. However, the provision of U.N.I.C.E.F. powdered milk and cod-liver oil has helped many children through the weaning period, when malnutrition is so common, and school feeding programmes have made some

contribution to the nutrition of many children during their growing years.

Improvement in the health of mothers and infants has resulted from the maternal and child health projects which have been assisted by W.H.O., and by the provision by U.N.I.C.E.F. of drug and diet supplements for pregnant and nursing women. Since it is the practice in many of these countries for breast feeding to be continued beyond the end of the first year, and since breast milk is often the only milk available for the infants, it is specially important for the mother to be able to breast feed as adequately as possible.

It is of interest to note the reduction in the infant mortality figures for a number of South-East Asian countries during the five-year period 1950 to 1954 (Table II). A marked improvement is obvious in certain countries, notably Japan, Malaya and Singapore; but others have still a long way to go. It is not easy to produce rapid changes in practices concerned with child-bearing and child-rearing, since they are closely bound up with the traditional beliefs and customs of the people. Until the reasons for change are understood and the new methods are desired, they will not be accepted or trusted. It is imperative, therefore, that maternal and child health personnel in international teams should first study the culture of the people, their social background, their religion, their food customs and their family pattern before attempting to give assistance and to draw up recommendations.

TABLE II.  
Infant Mortality Rate per Thousand Live Births.

Country.	1950.	1951.	1952.	1953.	1954.	1955.
Japan .. ..	60.1	57.5	49.4	48.9	44.6	39.7
Formosa .. ..	35.3	34.5	35.3	33.7	30.1	33.0
Philippines ..	101.6	105.5	108.7	—	—	—
Hongkong .. ..	99.6	91.8	77.1	73.6	72.4	66.4
Malaya .. ..	101.6	96.3	90.0	83.4	83.1	78.4
Singapore .. ..	82.2	74.9	69.8	66.7	56.0	—
Ceylon .. ..	81.6	81.9	78.4	71.2	72.0	71.5
Australia .. ..	24.5	25.2	23.8	23.3	22.5	22.0

Since the health services advocated must be within the economic limits of the country, and must be able to be maintained on the local budget alone after the international assistance has been withdrawn, the advisers must have some knowledge of the government expenditure on health services and of the other financial sources available for medical care. The amount of money spent on child health services varies very much in different countries. The pattern of health services developed has been influenced by the colonial administration of the particular nations responsible. In the British territories, maternal and child welfare has received considerable attention from the Colonial Medical Service, and programmes for the training of midwives and health nurses have been set up at the central and local authority levels. In the Philippines, in keeping with Spanish custom, the care of less fortunate children has been the responsibility of the church and voluntary organizations. "Puericulture centres" have been established in many districts by committees of benevolent women.

The emphasis placed on child health by United Nations agencies has awakened many national governments to its importance, and the availability of supplies and equipment from U.N.I.C.E.F., for use in maternal and child health centres staffed with trained health workers, has prompted many governments to develop their services. Since trained health workers are required in order that U.N.I.C.E.F. supplies and equipment may be received, programmes of training offered by W.H.O. and the Colombo Plan have been welcomed. Although for some purposes training can be given within the country by experts from overseas, the value of fellowships to enable national staff to study in countries where health standards are better is much appreciated.

It is important, in the centres to which the fellowship holders go, for the medical teachers to understand their background, so as to help them gain the knowledge they need and to adapt it for use in their own countries. Tonight's talks are designed to give a picture of some of the countries where paediatric assistance is being given. I will begin with Cambodia.

<sup>1</sup> Read at a meeting of the Paediatric Society of Victoria on July 9, 1958.

<sup>2</sup> The Western Pacific region of W.H.O. also includes (a) Australia, New Zealand, the Philippines, China (Taiwan), and Korea, countries having their seats of government within the Western Pacific, and (b) France, Portugal, U.S.A., the Netherlands and the United Kingdom, countries responsible for territories within the Western Pacific.

### Cambodia.

Until recently one of the States of French Indo-China, Cambodia is now an independent country with a population of about four and a half million. It is predominantly rural, with a population density of 25 to the square kilometre, dense compared with Australia's one, but sparse compared with Ceylon's 131, Ceylon too being a rural country. It is situated on the Gulf of Siam, with Thailand its northern and western neighbour and Laos and Vietnam on the east. The Cambodians are a friendly, hospitable people, of ethnic origin akin to the Thais. Their culture shows both Indian and Chinese influence. The French influence is seen in the street planning of the capital city of Phnom Penh. Their religion is predominantly Buddhist. They are agriculturalists—rice growers—and fisher people, the well-stocked inland lakes and rivers providing them with their dietary protein. The country is one of the few remaining monarchies, and as it is close to Communist China, the people are constantly in fear of invasion, and this has had a marked influence on both their economy and their health standards in recent years.

Many of the farming people from the north-eastern areas and from Laos, which borders on the Chinese Republic, have left their rice fields and retreated to the city for security, so that rice production has dropped and Phnom Penh has become overcrowded, with a consequent increase in incidence of communicable diseases. Many people have no homes or adequate cooking facilities, and a large proportion obtain their food from hawkers, who cook it on the street with primitive equipment and exposed to contamination. This is one of the problems in the control of gastro-intestinal diseases.

W.H.O. teams have given assistance in attempting to eradicate malaria, tuberculosis and venereal disease, and in training health workers of every category. Improvement in environmental sanitation, the establishment of clean water supplies and the prevention of food contamination are vital steps in the improvement of child health. For carrying out such improvements, in addition to trained technicians, health education at every level is necessary. For this purpose maternal and child health centres and school health programmes are essential.

With W.H.O. assistance, a demonstration maternal and child health centre was established in 1952, where a Belgian doctor and a French-Canadian nurse began working in a community centred around one of the old French dispensaries. Here ante-natal and infant welfare supervision is given, minor ailments are treated, and midwives are available for attendance at childbirth. Home visiting is carried out by the public health nurse, and teaching is given to women in their own homes, if possible in their own language.

At the same time, provision for the care of sick children is being made. Dr. Danvoye, the Belgian doctor, established a paediatric unit and worked hard to maintain a reasonably high standard of asepsis. The mortality rate is very high in this ward, partly because parents bring their children to the hospital only when a disease is far advanced. Gastro-enteritis, tuberculous meningitis, malaria, osteomyelitis and malnutrition are frequent causes of death.

There was no medical school in Cambodia, and only a short two-year course of training for medical attendants, called "health officers", was provided, comparable with that for the medical assistants in Malaya and New Guinea. Under the French Colonial Service, a few of the Cambodians who have completed this training have been given further medical education in Paris to qualify as doctors. One of these acted as Dr. Danvoye's opposite number in the hospital paediatric unit and the maternal and child health project. Other health officers have been assigned to work in both fields.

Nursing staff is, of course, required, both for the hospital unit and for child-health work in the community. Formerly there was no nursing school, and the only training given to women in the field of health was for private midwifery practice, and this of a rather inadequate nature. A nursing school has now been established by a W.H.O. nursing education team, consisting of specialists in the various aspects of nursing-training. It included a French-Canadian paediatric nurse, a Dutch public health nurse and a British nurse midwife, each of whom worked closely with the maternal and child-health team. Since few Cambodian women with sufficient basic education were available for training, it was necessary to start with male nursing students.

A school health project is being conducted in which the major emphasis is placed on early detection of tuberculosis and of intestinal infestation, and improvement of sanitation by provision of latrines and facilities for hand-washing and the teaching of hygiene.

It was obviously important to extend the health services to rural areas and to encourage farmers to go back to their rice fields. A rural health centre was therefore established to train workers for the special needs of the country areas. Home visiting played an important part in this programme, since it was first necessary to reach the people in their own homes. The keeping of records and data on family life was fraught with many difficulties, one of which was the practice of polygamy by the people. There are many amusing stories one could tell about the efforts to record details for the compiling of case histories and statistics, but time does not permit.

### Philippines.

Let us consider next the Philippines, which have a population of 21,000,000 people, chiefly of Malayan origin, with marked influence by the Spanish who dominated the islands for 300 years. Superimposed is an American veneer, due to fifty years' exposure to that influence prior to liberation in 1946. The people in the highlands probably migrated from Indo-China or the south of China more than 2000 years ago, and have been little influenced by the western world.

Agriculture is the major industry, the main crops being rice, corn, sugar and copra. The population density is 32.8 to the square kilometre. There is a big urban community, the largest cities being Manila with a population of 1,500,000 and Cebu with 1,000,000. The country is administered by a national government, the members of Parliament being elected by the American method. Local municipal authorities have considerable responsibilities, though rather uncertain budgets. The Manila City Health Department provides services far in advance of the rest of the country. The 35 health centres within its metropolis make fairly good provision for the medical care of the child.

Malnutrition, which has accounted for a considerable amount of child illness, has received attention by the national government, partly owing to the efforts of Dr. Salcedo, a nutrition worker of international standing, who was Secretary for Health for some years. The rice-enrichment programme, which he developed, has helped to wipe out beriberi, which caused such a high mortality during the Japanese occupation. Kwashiorkor, though not as prevalent as in many countries, does occur and has been described in the literature by Dr. Stransky, a paediatric pathologist at the Philippine General Hospital. Protein, provided very largely by fish in the normal diet, is in short supply in many inland areas. Milk feeding schemes established by U.N.I.C.E.F. have helped considerably in the pre-school and school years.

Intestinal infestation and gastro-intestinal diseases are prevalent diseases of childhood, associated with the lack of sanitation and impure water supplies in many country areas. The development of rural health services has been neglected, but is now being aided by various international agencies, particularly U.N.I.C.E.F. In an effort to raise the level of community health, health education projects centred on the schools are being developed in the small villages. The district health officer and public health nurse work through the school teachers, who in turn teach the children and work with the parents. A village health committee is formed and a small health centre established, which is visited periodically by the doctor, health inspector, public health nurse and midwife from the nearest municipal centre.

Immunization courses against smallpox, typhoid, cholera, and rabies are the general rule. Triple vaccine is now being advocated. B.C.G. vaccination is being carried out on a wide scale also.

Tuberculosis is still a major problem and leprosy still a heavy responsibility. Early case finding and tracing of infant and child contacts is being aimed at through the establishment of "skin clinics". Leprosaria are well conducted, and modern methods are in use.

Another disease which accounts for its share of child illness is schistosomiasis, which is very prevalent in the island of Leyte. The carrier, the water snail, is found in the rice fields, which are frequently wet, and even in the shallow waters of the beaches, so that both the fisherfolk and the farm workers are subjected to invasion by the parasite. A W.H.O. assisted research project is being



carried out at Palo in Leyte to try to find ways of overcoming the disease.

Malaria and yaws, major problems in most tropical countries, have been tackled with considerable success. Once these community diseases have been reduced, the paediatric picture becomes more like that of the temperate zones, and rheumatic fever, poliomyelitis and congenital abnormalities, such as cleft palate and hare-lip, can receive attention. This is the changing picture in Manila.

Melbourne.

A. ELIZABETH WILMOT.<sup>1</sup>

## Medical Societies.

### PÆDIATRIC SOCIETY OF VICTORIA.

A MEETING of the Paediatric Society of Victoria was held on July 9, 1958, at the Royal Children's Hospital, Melbourne. The meeting took the form of a symposium entitled "South-East Asia: The Paediatrician's Viewpoint".

#### Cambodia and the Philippines.

DR. ELIZABETH WILMOT (formerly Regional Adviser on Maternal and Child Health in the Western Pacific Region, World Health Organization) read a paper entitled "Paediatrics in South-East Asia" (see page 492).

#### A Children's Clinic in Manila.

DR. CORA BALEROS (Colombo Plan Fellow from Manila) said that she proposed to discuss the common ailments usually encountered in the paediatric clinic where she used to work. For years, there had been only one paediatric hospital in Manila, the Manila Children's Hospital, which had been very crowded, as Manila had a population of 1,500,000, the same as Melbourne. In 1951 Dr. Fe del Mundo had resigned as director of the Manila Children's Hospital in order to establish a new paediatric clinic in Quezon City, which was ten miles out of Manila (and which, according to government authorities, would be the future capital of the Philippines). That clinic had started with 30 to 40 patients per day, later on increased to 80 patients per day. The second floor was composed of wards, nursery, formula room, convalescing room and isolation room, admitting 30 to 45 patients, while the first floor was the out-patient department. That was run smoothly with a staff commencing with three doctors and four nurses, and later increased to eight doctors and 12 nurses and several midwives and attendants. The total number of patients examined in 1952 had been 9180, the number having increased to 11,533 in 1957. The clinic had been overcrowded, and many of the patients had had to be quartered in general hospitals. Dr. Baleros said that since she herself had left Manila, Dr. Fe del Mundo had expanded her project with the opening of a larger foundation children's hospital with 120 beds. That new foundation children's hospital was to be a self-supporting institution with both public and private beds. It aimed at being a modern centre of treatment and care for infants and children—a crying need in the Philippines, where infant mortality rates were high even for Asia (94 per 1000 live births in 1954). It also aimed to prevent disease and give courses in paediatrics to graduate physicians, medical practitioners, medical students, nurses, midwives and dietitians. It was also planned to conduct research in children's diseases, and to cooperate with the community health work for the health and welfare of children. Right from its inception, Dr. Fe del Mundo had arranged every year to send doctors and nurses of her staff overseas to specialize in different branches of paediatrics. Dr. Baleros had been fortunate enough to be sent to Australia under the Colombo Plan to study the care of premature and new-born babies and clinical laboratory work. During her stay in Dr. Fe del Mundo's clinic, the most common ailments accounting for the high infant mortality rate had been respiratory infections, gastro-intestinal disorders, prematurity, and tuberculosis.

Dr. Baleros said that diarrhoea had been the most common of the gastro-intestinal disorders. It might be dietetic, infectious or parenteral. At that clinic most patients with gastro-enteritis were treated without repeated laboratory examinations; therefore, treatment depended upon the

severity of the illness. "BRAT" diet was given if the child was able to take in solid foods (B, mashed bananas; R, rice water; A, mashed apples; T, weak tea). Potassium deficiency was not a problem in their clinic, as oral milk feeding was resumed early, and if it was not tolerated, potassium was supplied by other means.

With regard to prematurity as the third cause of the high infantile mortality rate, Dr. Baleros said that the problems of preventing infection and maintaining respiration were the most common. Maintaining respiration was considered also as an obstetric problem. It was noted that atelectasis with hyaline membrane was more common overseas than in the Philippines, being prevented perhaps by climatic factors (temperature and humidity). Infection was quite a problem, owing in some hospitals to overcrowding in nurseries (two or three babies in one crib); or in other hospitals it might be due to the change of head nurses from public to private nurseries. Among the neonatal infections, those due to the *Staphylococcus* and *Streptococcus* were rare, and if they did occur, they were not very virulent. The maintenance of temperature was not a problem for them, as their temperature and humidity were just right for a premature baby. What they had to be careful of was overheating the babies; nevertheless, they did use incubators for weak infants and those weighing under four pounds, mainly for isolation and protection against infection. Prematurity in rural areas had also received attention. In Manila there was a home service for premature babies with the Fabella Memorial Health Centre as the nucleus, and only babies who could suck and maintain their temperature were taken care of at home with instructions given by doctors and nurses. Because Rh-negative individuals were rare, they seldom saw erythroblastosis and rarely performed exchange transfusions.

Another common ailment was primary tuberculous infection. It was now discovered early in the Philippines by routine Mantoux testing of all babies aged one month and over, and if the result was negative, B.C.G. was administered. If a full-term baby was born in a hospital with no contact with persons having tuberculosis, B.C.G. was given in the first month of life, and its effectiveness was tested two, six and twelve months after, and if the X-ray findings were positive, treatment with INAH and PAS and streptomycin was given. If the X-ray finding were negative and there was a strong history of contact, treatment was also started and radiological follow-up was carried out.

Dr. Baleros said that at a meeting of the International Medical Women's Association held in Manila in January, 1956, it had been clear that the diseases which caused so many infant deaths in their clinic, such as respiratory and gastro-intestinal disorders, prematurity and tuberculosis, were also major causes of the high infant mortality rate in other countries. Among other causes of infant deaths she wished to mention was malnutrition, which had already been referred to by Dr. Wilmot. A recent report from the Philippine School Medical and Dental Services had shown an incidence of 50% to 80%. The second disease which caused infants' death was the "Asian flu" in the epidemic of May, 1957. It had attacked Filipino children of all ages, including new-born babies. Statistics in Manila showed that 53.37% of the deaths were of children aged from one month to four years. Dr. Baleros regretted that one of Asia's contributions to Australia was the "Asian flu".

#### Indonesia.

DR. K. LETHLEAN (Volunteer Graduate employed by the Indonesian Government in 1955-1956) described the rural practice where he had spent the greater part of the two years during which he had been employed in the Indonesian Government Medical Service. It was situated in the Sangihe-Talaud Islands, which filled in the area between the Northern Celebes and the Southern Philippines, and it was with the southern portion, with a population of 44,000, that he had been especially concerned. His remarks applied to the entire group; but in the other areas of Indonesia which he had seen, conditions were often quite different. In the town of Ulu where he had lived, there was a Government Hospital of 60 to 70 beds, staffed by the islanders, and there he had worked from 8 a.m. till 2 p.m., partly in the clinic and wards, and partly in the well-organized office. In the late afternoon he had had a private practice which had catered for most of the more sophisticated patients, whose ailments were often trivial. It was perhaps unfortunate that where there was such a need for medical services, there was a great demand also for the family physician. Among the general hospital patients there was, of course, a great variety, and proximity and education differentiated them. Those from the town and the neighbouring villages attended the clinic, where they were

<sup>1</sup> Formerly Regional Adviser on Maternal and Child Health in the Western Pacific Region, World Health Organization.



examined by the doctor, or in his absence by a sister, who in Indonesia often fulfilled the role of a doctor as well; return visits were possible, or admission to hospital was available if required. A few patients came longer distances (40 miles by sea), but subsidiary clinics with a resident sister primarily catered for those villages.

Dr. Lethlean went on to say that each Friday morning he worked in the clinic on the opposite side of the island, and more or less regular trips were arranged to other villages and other islands; on such occasions a few ill patients might consent to return to the hospital, but usually injections and/or medicine were given. Unfortunately, faith in the needle went with a disregard for the tablets or ointments, and it was a difficult and uncertain matter to convince patients when the latter medicines were appropriate. That recent superstition was one of those to be overcome; the still common reliance on native medicines, and an equally natural reluctance to travel long distances for treatment, or to stay too long away from home, or to leave children alone, were attitudes to be reckoned with. Children were rarely left in the hospital without the constant presence of one related adult, and while that did complicate the children's ward, it had its advantages. Thus one worked with an eye to enhancing the reputation of modern medicine, as well as to the problem in hand; on touring, the meals and the talks with the leaders of the villages were one of the most important parts of the day's work. Although a family's first contact with the hospital might be to no avail—as in the illustrative case of the accident victim who died after an operation—the contact often led to attendance by the other members in their later illnesses.

The nutrition of the islanders was generally good, because fish was abundant, and with their earnings from copra, nutmeg and fish they could buy adequate rice. Fruit was plentiful, but vegetables were few, because their cultivation on such volcanic islands was the most difficult work there. However, fish was often denied children up to the age of two years, for superstition had it that worms were contracted by eating fish, and so after weaning protein deficiency was common, and fully developed kwashiorkor was sometimes seen. Important in that connexion was the work of U.N.I.C.E.F., which had extended into that rural community its Mother and Child Welfare Services. They were based on examination of pregnant women, and the giving of advice concerning their nutrition and medical needs, the provision of facilities for hygienic labour and attention to the nutrition and general welfare of the young child. The jeep and outboard motors of the hospital had been provided by U.N.I.C.E.F. to help with that work, and skim milk was supplied for pregnant and lactating women, primarily as an educational medium.

Dr. Lethlean said that the training of village midwives (often the former "native midwives") at his hospital, as at very many others, was one of the more constructive moves, both directly, and indirectly as a source of education. The parasitic diseases represented the greatest difference between tropical medicine and that in Melbourne. Of those diseases, malaria was the most important; but the W.H.O.-initiated programme of annual D.D.T. spraying of all homes and the easier access to antimalarials (usually quinine), were together reducing the incidence. However, the increasing sales of influenza pills, including patent aspirin tablets, often delayed proper treatment. Of the worm infestations, ascariasis seemed to provoke a large amount of abdominal discomfort, diarrhoea and vomiting and anorexia, as heavy infestation even in babies was quite common. Fortunately, the population was well used to anthelmintics, usually santonin or oil of chenopodium, and although neither was fully effective, the clearing of a majority of the worms did give relief. Ancylostomiasis was important also; although nearly all the villages were situated on the coast, there was little concept of sanitation, and the great majority of individuals harboured worms. Yaws teams were reducing the incidence of that disease, although it was still common, as also were tropical ulcers; the necessary grafts in quite a number of the cases presented a more difficult problem than the actual infection. Mycosis and impetigo were extremely common, and the tedium of treatment meant that they often followed their natural course. Tuberculosis was perhaps the greatest problem without apparent solution; the incidence of clinically active cases was about 3%. The impossibility of providing hospital and sanatorium treatment for any but a tiny minority of patients, the impossibility of encouraging reasonable isolation and rest in any other surroundings, and the cost of streptomycin and PAS and the shortage of both, in addition to the usual difficulties with that disease, meant that only a few were really helped. The concept

of treatment for months after apparent cure was a foreign one, and many sufferers had come to expect a course of treatment at intervals. It was hoped that mass inoculations with B.C.G., soon to cover the whole of Indonesia, would greatly reduce the incidence of tuberculosis, and perhaps ambulant therapy with INAH only would also help a proportion of the sufferers.

Dr. Lethlean finally said that in essence it was the natural conditions that made such a rural practice what it was, and the problem of priorities was always present. Drug supplies were tenuous, communication and travel were difficult, and much delay was involved at an administrative level. Continuity of medical staff was the exception in such areas, and the bulk of the work in any case was done by the sisters (male and female) and the pupil nurses. It was certain that most of the personnel required to lift the standards of health and hygiene would have to come from the local areas themselves, trained elsewhere if necessary; it was only the intelligence, the reliability, and the very real devotion to their work on the part of his staff that surely indicated that progress would continue in the rural areas.

#### Discussion.

PROFESSOR S. SUNDERLAND, in opening the discussion, said that South-East Asia presented a devastating problem beyond conception. Unfortunately the statistics tended to be misleading. It was essential to understand certain factors of the background: (i) despite the large population, there were still sparsely inhabited areas, and that led to problems of communication; (ii) certain local customs were of great importance medically—for example, the eating of raw fish and the practice of going barefoot; (iii) local religious attitudes and medical practices were also most important factors. Some areas were much better off than others for medical services; thus there were 1500 doctors serving a population of 80,000,000 in Indonesia, whereas in Thailand there were 2700 doctors serving a population of 22,000,000. Nevertheless, no area was adequately supplied with doctors, and there was a desperate need throughout Asia for hospitals, nurses and ancillary services. The South-East Asians themselves were aware of the problem. There were medical schools in Singapore, Hong Kong, Saigon, Jakarta and Sourabaya; but they had all been established by Europeans, and whilst they must be given due credit, they were very rigid in their approach. Their curricula were on the European pattern and not designed for the training of native populations. Thus with the departure of the French and Dutch there was not much left. The Chinese were the only people with the realistic approach of producing as many reasonably trained doctors as quickly as possible. In Vietnam and Indonesia there was a reluctance to lessen the curricula established by the Europeans, as that would involve loss of "face". Thus the Dutch had had a seven-year course, and the Indonesians had clung to it, and also to their severe examinations. As a result, although Indonesia now had five medical schools, it still graduated very few students; Jakarta had 1500 students, but graduated only 25 to 35 per annum. In Vietnam the curriculum was based on the French system and commenced with clinical work, but was now being overhauled. The whole economy of those places depended on United States' dollars, and unfortunately Americans, like most Europeans, thought that their own way was the best way. What was needed was people trained to the needs of the particular race concerned. There was not much point in bringing Asians to Australia at the undergraduate level, as the course was not designed for them. It was better for them to train in their own country, and then come to Australia as post-graduates. Indonesia probably presented the worst problem in Asia. The population of Java had grown from 3,000,000 in 1800, to 9,000,000 in 1850, to 25,000,000 in 1900 and to more than 50,000,000 in 1953. In Thailand the birth rate had increased from 31 per thousand in 1946 to 45 per thousand in 1953—and that was despite the background of poverty and disease. If the infant mortality rate was reduced, what happened next? The point of no return had to be reached. The Food and Agriculture Organization was making a contribution in such matters as flood control and agricultural improvement, but that could not completely solve the problem. In Asia there was a renaissance of education. Japan had the lowest illiteracy rate in the world. As in other parts of the world, including Australia, a principal aim in becoming educated was to be able to earn more money. That led to a drift from rural to urban living, and for that reason many parents were opposed to the extension of educational programmes. There were many factors contributing to disturb the ecological equilibrium, and the situation was a highly inflammable one. Medicine was only one part of a vast problem.

## Medical Education.

### POST-GRADUATE MEDICAL EDUCATION IN THE UNITED KINGDOM.<sup>1</sup>

I FEEL honoured at being asked to speak to the Commonwealth Medical Conference on post-graduate education in the United Kingdom, but I also welcome the opportunity of spreading information on a subject of great importance and one, moreover, with which we are much concerned at the Commonwealth Medical Advisory Bureau. The principle that post-graduate education is a necessity is today accepted, and it is encouraged in this country under the National Health Service and financial help is made available. As the doctor should never cease from striving to learn during the whole of his active professional life, it is necessary to provide facilities for junior and senior or for general practitioner and specialist. Perhaps in the long run the collection of more knowledge that can be used in the care of his patients is of no greater importance to the doctor than the rekindling of enthusiasm that we all require from time to time. What I have to say is greatly influenced by my work in the Bureau, where many of the Commonwealth doctors who seek advice know little of the organization of medicine as it has developed in the United Kingdom and as it is now under the National Health Service. Until I have explained something of this they may find it difficult to plan their work and study. With this in mind I propose to consider some of the ways in which the hospitals and teaching bodies can meet the wishes of doctors seeking post-graduate education in this country.

#### The Specialist.

The senior doctor who is already established as a specialist is almost certain to be a member of an appropriate learned society, and through its meetings and publications he will be in touch with doctors who have similar interests. If he comes from overseas and wishes to visit hospitals and clinics, he will probably know where to go and can make his own arrangements, but help and advice are readily available. Such visitors are very welcome, and their numbers have increased with the development of modern transport. In addition to such useful but informal contact with specialist colleagues, short conferences suitable for consultants or senior registrars are held from time to time in London and other important medical centres.

#### The General Practitioner.

The general practitioner, too, may come to the United Kingdom hoping to attend courses in a never-ending endeavour to keep up to date in all the branches of medicine with which he is concerned. His needs are catered for in many centres throughout the United Kingdom, and in London an extensive programme of courses is prepared by the British Postgraduate Medical Federation. At both Oxford and Cambridge regular teaching is given in the wards and out-patient departments of the hospitals. It is unnecessary to describe in detail all the possibilities, but it can be said that any doctor from overseas, as well as local doctors, can find suitable courses to attend provided adequate notice is given.

#### Specialist Training.

I now turn to the most important group of doctors, whose object in seeking post-graduate education is to train as specialists. The majority hope to obtain a diploma in the subject in which they are interested, but others seek only to work in hospitals or laboratories as part of their preparation for specialist work in their own countries. Attachments to clinical units or laboratories may be arranged in suitable cases by direct contact or through the British Postgraduate Medical Federation; but if any paid post is sought, the doctor will apply for vacancies in hospitals under the National Health Service, and these are filled by open competition. British medicine is proud of its high standards of clinical work, and much weight is placed on the knowledge and experience a doctor can gain by holding a responsible hospital appointment under the supervision of a senior specialist. It may be mentioned here that some hospital appointments give the holder extensive practical experience, while others—for example, in the professorial unit of a teaching hospital—have a more academic outlook with emphasis on research. A doctor will profit from both types of work, and it is a common practice to try to obtain both during his years of training.

It is necessary to digress a little at this stage to describe the way a doctor becomes a specialist in the United Kingdom and also to explain the significance of the diplomas, this term being used in a wide sense to include membership or fellowship of one of the Royal Colleges. I have often found that lay government officials who may be concerned with sending a doctor to take a course here have little conception of the preparation required for, say, the M.R.C.P., and even doctors from other countries may be a little vague about the relationship between the achievement of a diploma and the status of specialist. As our discussions may reach a wider public than is gathered here, some words on this subject may not be wasted. There is no rigid system of training for specialization in the United Kingdom, but the doctor, by holding appointments suitable for gaining experience, by study, by passing examinations in the subject of his choice and perhaps by research, gradually attains the knowledge and skill that would justify giving him the title of specialist. There is, however, no register of specialists in the United Kingdom, and in past time it was the recognition of his ability by his colleagues who were prepared to send their patients to him in consultation that gave him the name of consultant or specialist. Today it would perhaps be correct to say that he is considered to be a specialist when he has been appointed to a specialist post in the National Health Service.

#### Membership or Fellowship of the Royal Colleges.

The training differs in the various branches of medicine, and it may be best to give a few examples. If a doctor wishes to become a specialist physician, he will seek to pass the examination to become a Member of the Royal College of Physicians. The requirements of the College before admitting a doctor to the examination are remarkably few, and there are no compulsory courses of study. Nevertheless, the doctor will be unlikely to be successful unless he has had the opportunity of working in a hospital under the guidance of a good physician. He must be proficient at the practical side of his subject and have a good understanding of medicine and its basic sciences. When he has passed the examination, he will probably seek a position as a senior registrar in a general medical ward or perhaps turn to some narrower specialty, such as neurology or cardiology. Three or four more years must pass before he can feel ready to apply for a suitable vacancy as a specialist.

To be a Member of the Royal College of Physicians is not evidence that a doctor is a specialist but is normally required of a candidate for a medical specialist's post. The course of training is about five or six years, and the doctor must organize it to a large extent himself, seeking hospital posts in competition with others. The important Membership examination is taken in the middle of the training years and means that the preliminary period is over and he is now started on the real preparation for his career.

The Fellowship of the Royal College of Surgeons or the Membership of the Royal College of Obstetricians and Gynaecologists is gained in much the same way. There are no compulsory courses of study, but a candidate must produce evidence of experience gained by working in recognized hospitals before he may sit for the examinations. Certain diplomas may be placed in the same class as the Memberships or Fellowships, in that suitable experience rather than set teaching is required. Examples are the D.P.M. (Conjoint) or the D.M.R. For the latter there is a short compulsory course in physics and then two years' experience in a recognized radiological department before the examination may be taken. Again success in obtaining the diploma does not establish the doctor as a specialist, but merely as one well set on the road, and he will need a few more years' experience before he can be considered eligible for a specialist's appointment. It may seem strange that the examination for Membership or Fellowship of the Royal Colleges comes in the middle of the preparation of a doctor to become a specialist, instead of coming at the end and indicating the completion of the training. This scheme has, however, developed over the years and, like many traditional ways of doing things, has its virtues. Perhaps the most important thing is that, if a doctor has difficulty in passing the examinations, he will be able to seek at an early stage some other career in medicine. Another is that, having passed the recognized examinations, he has a greater freedom of action for research, travel or work in a narrower specialty without feeling that he may be jeopardizing his chances of passing some final specialist qualifying examination. This period between becoming a Member or Fellow of his College and

<sup>1</sup>A paper read at the Fifth British Commonwealth Medical Conference, London, 1959.



establishing himself as a specialist is often devoted to clinical research and may be most fruitful of results.

Although at first the training of a specialist appears rather haphazard, in practice it follows a fairly well trodden path of junior hospital appointments and then courses of study and examinations followed by more senior posts. With the present method and with open competition for appointments at all levels the overseas doctor has a good chance of joining with his United Kingdom colleagues in "climbing the ladder".

#### Hospital Appointments.

As hospital appointments of a suitable type play such an important part in the training of a specialist, it is necessary to consider whether they are readily available. At present surgical posts and those in most branches of surgery can usually be obtained without great difficulty. Those in medical subjects are more difficult, and in obstetrics and gynaecology the competition is very keen for posts recognized by the Royal College as providing training suitable for the candidate for the D.Obst. or the M.R.C.O.G. With the ending of National Service, doctors in the United Kingdom may spend a longer time in hospital work before deciding on their final career, and this would increase the competition for vacancies.

The doctor from overseas being unknown is at a disadvantage when seeking a responsible hospital appointment, and it is therefore important to him to obtain some post-graduate experience in his own country and then have his visit suitably sponsored or at least supported by good recommendations.

#### Courses of Instruction.

The formal teaching that is available is mostly planned as preparation for the examinations for the various diplomas. In London there are many courses of instruction both full-time and part-time, and these are usually arranged at suitable periods just before the examination dates. For example, the Institute of Basic Medical Sciences in association with the Royal College of Surgeons offers a 14 weeks' course in preparation for the primary Fellowship examination. For the final examination the student may attend a part-time or a whole-time course arranged by the College or follow the teaching based on ward work at the Postgraduate Medical School of London. The Fellowship of Postgraduate Medicine provides part-time courses suitable for doctors who are not free for whole-time study. A number of the undergraduate teaching hospitals also arrange courses at suitable intervals in preparation for the final F.R.C.S. examination. Edinburgh is another centre where there is a fine tradition of post-graduate teaching, and one might perhaps mention Glasgow and Liverpool in particular as centres with important teaching facilities.

In London the organization for post-graduate teaching has been greatly improved with the establishment soon after the end of the war of the British Postgraduate Medical Federation, which is the body responsible to the University of London for the organization of institutes for post-graduate teaching of medicine and also for the Postgraduate Medical School of London (Hammersmith). The institutes are associated with famous specialist hospitals, and a full list of these is as follows: Postgraduate Medical School of London (Hammersmith and St. Mark's Hospitals); Institute of Basic Medical Sciences (Royal College of Surgeons); The Institute of Cancer Research (Royal Cancer Hospital); The Institute of Cardiology (National Heart Hospital); The Institute of Child Health (Hospital for Sick Children, Great Ormond Street); The Institute of Dermatology (St. John's Hospital for Diseases of the Skin); The Institute for Diseases of the Chest (Brompton Hospital and London Chest Hospital); The Institute of Laryngology and Otolaryngology (Royal Ear, Nose and Throat Hospital); The Institute of Neurology (National Hospital); The Institute of Obstetrics and Gynaecology (Chelsea Hospital for Women and Queen Charlotte's Hospital); The Institute of Ophthalmology (Moorfields Hospital); The Institute of Orthopaedics (The Royal National Orthopaedic Hospital); The Institute of Psychiatry (The Bethlem Royal Hospital and the Maudsley Hospital); The Institute of Urology (St. Peter's, St. Paul's and St. Phillip's Hospitals).

Teaching is available in preparation for post-graduate diplomas and also at a more advanced level. Research is looked upon as part of their function, and opportunities to join in this work are granted to suitable doctors.

#### Other Diplomas.

There is a further series of diplomas that I have not yet mentioned. These, being outside the usual clinical

sphere, require a special course of training before the necessary examinations may be taken. Examples are the D.P.H., D.I.H., D.C.P., Dip. Bact. and D.T.M. and H., and one or more universities offer the necessary courses. They are mostly full-time courses lasting for a period of one academic year. The instruction for the D.T.M. and H. is shorter, and at Liverpool, where it is designed to extend the knowledge of a doctor trained in the United Kingdom to cover the so-called tropical diseases rather than to start him on a specialist's career, it is only three months in duration.

#### Planning Post-Graduate Studies.

I have pointed out that formal teaching plays only a part in the training of a doctor to become a specialist in a clinical subject, but that such teaching is available in the main centres of the United Kingdom and may be in preparation for the diploma in his subject or in advanced work after taking the diploma. There appears to be an appropriate scheme of instruction in this country for most of the main branches of medicine, and in many there are diplomas that give evidence of, at least, sound basic knowledge of the subject. The opportunities for practical training are largely dependent on obtaining appointments, and these are not unlimited. As hospital appointments are filled by open competition, it is found that the good student from overseas can usually be satisfied.

For the doctors who hope to train as specialists there is a great need to plan their work and studies, and this is particularly important for the overseas doctor intending to come to the United Kingdom for part of his training. Advice can be obtained from post-graduate committees, which exist in some countries, and from deans of medical schools or senior specialists in the doctor's own country. In the United Kingdom the deans of the post-graduate teaching bodies can advise on the preparation for a specialist career, and valuable help can be obtained from the Director of the British Postgraduate Medical Foundation, who not only can suggest a plan of work but also makes arrangements for courses of instruction.

Finally I wish to mention briefly the Commonwealth Medical Advisory Bureau, which can be of assistance in many ways to doctors planning to come to the United Kingdom. Frequently inquiries in the field of medical education are received, and doctors can be given much preliminary information on post-graduate diplomas and courses of instruction. A "Summary" of these is published, and copies have been made available for members of the Conference. As I have already said, the doctor who knows little of the organization of post-graduate medical education in the United Kingdom is the one likely to write to the Bureau, and he can be told something of the facilities and can be directed to those places, such as the British Postgraduate Medical Federation, where suitable arrangements for his studies can be made.

R. A. PALLISTER,  
Medical Director, Commonwealth Medical  
Advisory Bureau, London.

### Out of the Past.

*In this column will be published from time to time extracts, taken from medical journals, newspapers, official and historical records, diaries and so on, dealing with events connected with the early medical history of Australia.*

#### RECORD REIGN'S HONOURS.

SIR THOMAS N. FITZGERALD K.B.<sup>1</sup>

[From the *Australasian Medical Gazette*, July 20, 1897.]

ON behalf of the united profession throughout the whole of Australasia, we offer our hearty congratulation to Mr. (now Sir) T. N. Fitzgerald upon his elevation to the position of Knight Bachelor at the hands of Her Most Gracious Majesty the Queen. It is not too much to say that had the profession been polled from Port Darwin to Wilson's Promontory and from Auckland to Perth, its almost unanimous decision would have been in favour of the present honoured and respected recipient;

<sup>1</sup> From the original in the Mitchell Library, Sydney.



and it is a matter for special congratulation that such honour should, upon the first time of its bestowal within our borders for professional merit only, have fallen on one so universally considered worthy of it. We hope that Sir Thomas Fitzgerald may long continue amongst us to adorn the distinction he has so worthily earned.

In all marks of the Royal favour there are deservedly personal as well as general considerations. In the present instance the personal are too well known to need any elaboration. For years almost immemorial, Mr. Fitzgerald, as he then was, has been the leading figure of our surgical world. His hospital training in Mercer's Hospital, Dublin, recalls the palmy days of Irish surgery, when he was dresser to the ever-celebrated Mr. Butcher. His connection with the Melbourne Hospital, the clinical house of the largest Australasian school of medicine, dates back some 40 years, 36 of which he has spent as full surgeon. During that long period he has dominated, surgically, the ideas, efforts, and aims of some thousands of students and hundreds of graduates whose memories of "Fitz" are amongst their most cherished Hospital recollections. To the general public, also, his has ever been a name to conjure with from one end of the land to the other. And to the profession he has been known, not only as the most brilliant surgeon of his time, but as the introducer of new operations for the treatment of talipes, of fractured patella, of lengthening of tendons, of ununited fractures, and smaller improvements too numerous to mention, as well as the upholder of the best traditions of the profession, and at the great Medical Congress in Melbourne in 1889, its recognized head.

### Obituary.

STANLEY EARLES CRAIG.

We are indebted to Dr. Gilbert Troup for the following account of the career of the late Dr. Stanley Earles Craig.

Stanley Earles Craig was born at Warracknabeal, Victoria, on September 14, 1891, and educated at Warracknabeal College. He started his medical course at the University of Melbourne in 1910, and in his fourth year, on August 27, 1914, shortly after the outbreak of World War I, enlisted as Private No. 90 in the First Light Horse Field Ambulance. He saw grim and very active service on Gallipoli, and towards the end of 1915 was returned to Australia to complete his medical course which he finished at the end of 1916. He did a year as junior resident medical officer at the Perth Hospital, as it was then called, guided and encouraged by the late Gilbert Barker, the then Chief Resident Medical Officer, and having as fellow junior residents the late Don Tregonning and "Hugo" (Harold) Ward, now of York. In 1917 he started practice in the gold-mining town of Meekatharra. This hot and arid spot lies some 600 miles north of Perth, and in those days was literally in the backblocks, with no amenities as we know them today. His nearest colleague was 100 miles away; the house he lived in was built of galvanized iron lined with hessian. He had no motor-car in the first three years, and did all his local calls on foot, averaging about 10 miles per day. Calls to the outlying district, some of which were 200 miles away, were done in the town taxi. Trains to Meekatharra ran twice a week and took two nights and a day to get there. On such a journey, at the end of 1917, went young Eugenie Fairlam, of Melbourne, to marry the young Dr. Craig. To give his fiancée in Melbourne some of the local colour before she started on the long trek, he sent her a cutting from the Meekatharra paper. It outlined his prowess—not in the field of medicine, but in the ring of boxing—and gave a vivid and gory description of the rounds of a match—Dr. Craig versus Billy Sampey (the local baker). At the end of 1920 he decided to come to Perth, this on the advice of the late Dr. L. T. Gillespie. Tim, who came through Meekatharra each year en route to his station, "Hillside", 500 miles distant near Marble Bar, decided it was time to move on for a young man who had gained sufficient confidence in his work. He considered that two paths were open to him: the first, to take up practice in a thriving country town with a comfortable income and living, where he would probably remain; the second and more difficult path, to take a suburban practice, with the object of improving his work and ultimately specializing. Choosing the second alternative, Stan Craig bought into a difficult and far-flung general practice in Maylands, stretching from Mt. Lawley to Guildford. This he developed extensively during the following seven years. Always

leaning towards surgery, he applied for an honorary position at the Perth Hospital, and in 1924 was appointed gynaecologist. He remained honorary gynaecologist at the Perth (later the Royal Perth) Hospital until his retirement in 1951. In 1928 he gave up his general practice and started as a consulting gynaecologist, and was actually the first in the field in Perth. In 1949 he was elected a Member of the Royal College of Obstetricians and Gynaecologists, and he was later elevated to fellowship. He was also elected a Fellow of the Royal Australasian College of Surgeons. When World War II came along, the inevitable happened, and from 1941 to 1946 he spent most of his working hours as a Surgeon Lieutenant-Commander at H.M.A.S. *Leucivon*.

To the British Medical Association he gave yeoman service. He was a member of the Western Australian Branch Council from 1945 to 1947, and again from 1951 to 1955, and President of the Branch in 1945. One would have thought that this was a fairly full life for any one person, but somehow he found time to rise high in the craft of Freemasonry, and was also an active Rotarian.

Stan loved his sport. Mention has been made of his boxing prowess, which started in his undergraduate days. He also at this time played B grade League football for the University of Melbourne. He was an ardent yachtsman, and his yacht, the *Jane Craig*, was well known on the Swan River and even in the Bunbury ocean race. In his later years golf became his chief sporting interest, and it was on the Royal Perth Golf Links on the afternoon of Saturday, June 27, 1959, that the end came. After a magnificent drive, and as he was walking towards the ball for his next shot, he quietly and very quickly passed away. Good health had been his lot until 1954, when he suffered his first coronary occlusion. Later that year he had to undergo major surgery, and the following year a second occlusion occurred and he very nearly died. He made an amazing recovery, took up active work once more and spent his spare time between his workshop, pottering round the golf links and a delightful beach house in the south-west—a place he adored. Physical restriction came hardly to him, and his wife Gene had the arduous task of applying the necessary brake. To her good work belongs great credit for the fact that these last four years of his life were free of material medical incidents, and yet were full of pleasure and happiness for him. He died as he wished, in full harness. He was indefatigable in his attendance at medical meetings, and his last three nights were spent in attending lectures at the annual meeting of the State Branch of the Royal Australasian College of Surgeons.

Stanley Craig was a happy soul, whom it was a privilege to know and a still greater privilege to call friend. His wit and understanding, his charm, his kindly manner and complete naturalness made him beloved by all, whether acquaintance, patient or friend. We are indeed the poorer for his passing, but the richer for having known him. To his wife, Gene, and to his three daughters we offer our deep sympathy.

Dr. HUGH CALLAGHER writes: As one of Stan Craig's gynaecological colleagues, it is my privilege to add a few words to the foregoing.

To Stan, those of us practising this specialty in Perth owe a deep and sincere debt of gratitude. Against very stiff opposition, when gynaecology was considered part of the general surgeon's province, Stan carried on our battle, and after years of effort and very considerable financial worry cleared the road for us. Not only this effort and his outstanding capabilities as a gynaecological surgeon, but also the wonderful nature of our late colleague, gave to gynaecology a prestige to which it might never have attained.

Having been through such a hard mill, Stan was always anxious to help his junior colleagues. With this there was also humility. "I'd like to see how you do that", he would say, and along he would go to the theatre to stand by whilst a junior operated.

The honours which Stan received from the Royal College of Obstetricians and Gynaecologists were richly deserved, and during his many years and work at the Royal Perth Hospital he won the love and respect, not only of his honorary colleagues, but also of the many resident medical officers who were fortunate enough to work in his wards.

We will miss him greatly, and trust that the sympathy of his colleagues and the knowledge of the very high esteem in which he was held will in some measure lighten the sorrow of those near and dear to him.

Dr. ARCHIE MURRAY writes: As Stan Craig's partner for the last seven years, I would like the privilege of a few lines in the Journal. So much could be said, and will be said, about the passing of this truly great man that it

seems necessary to pause and ask oneself what was it about Stan which is so memorable.

First of all, he was loved, and it is necessary to remember that not many of us are truly loved; so many good doctors are merely liked by their patients, or respected, or looked up to or held in awe, that it is worth noting here was a man who was lovable and loved. This affection came not only from his patients, but also from his colleagues—this different feeling, not just that he was reliable or steady or safe or technically sound, but this thing which can only be called loving. As one who was lucky enough to work with and be close to him, it has been my fortune to be in a position to think more in detail about his qualities, and now that he has passed from amongst us it is well to remember them.



He was a man of gentleness. It is a doctor of whom we are thinking, and we mean he was gentle with those who came to seek his care; he was quietly spoken, he was obviously solid; the patients felt easy with him because of his gentleness. He was one who listened. He judged not, neither was he a man to be ruffled or put out, or to let his own feelings or personality intrude into his relationship with his patients. Although he was basically a surgeon, all people were to him the same—fellow human beings, never "cases". I cannot recall him using the word case. To him there were no courageous surgeons, only courageous patients. It was, of course, these same qualities which drew all nursing staff to his feet; in the wards, in the operating theatre or having a cup of tea, he was the same gentle man.

And whence came this gentleness? It came from a strong man's pride in himself—at first a physical strength and the joy of his youth. Many of you will know of his athletic prowess, of his cricket, his football, his wrestling and, above all, his boxing skill. Throughout all his life he was physically and mentally a boxer. He even played golf with this refreshing and friendly approach—the last round tells. He never gave in, and yet defeat was merely an incident, victory just cause for a joke.

And it was out of this strength and the security which strength begets that came his gentleness. And again he was a man unhurried. I remember well as his resident hearing him say: "Why the hurry, laddie? You'll only finish five minutes sooner." If we are now remembering

the things which were part of Stan Craig, then remember his advice—he gave it in the operating theatre, but he meant it for everything. He even added: "And by hurrying you could kill someone." Which makes one remember the way he drove his motor-car—eyes straight ahead, fixed over the bonnet of his Wolseley; because trouble to him came from ahead and was to be met straight on, and there was no place for sideways looking.

It was this straight approach which made him see only the goodness in all people. I can honestly say he spoke only well of all those with whom he came in contact—and this, you will agree, is a very hard thing to do. In the ordinary everyday chatter in which doctors indulge, I heard him speak no bad words against any colleague or patient. Moreover, he would defend those who were not present to defend themselves by saying they were "more sinned against than sinning".

And next amongst his qualities was his adventurousness—he did so many things most of us would never dream of doing. Whilst doing the medical course he sailed as a deckhand on an interstate coal boat, and he joined the Light Horse as a medical student and went to Gallipoli; when he qualified in Melbourne he went as a general practitioner to one of the remotest goldfields in Western Australia—a State unknown to him. Finally, he became the first true gynaecologist in this State, at a time when even the word was hard to pronounce and the meaning was unknown either to colleagues or to patients. He was the first to start the battle here towards recognition of the fact that women need a doctor who is interested only in them—that the female sex constitute a race apart and need special attention. At the time of the financial depression in 1930, this was certainly an adventurous approach.

And so it went on, this being the first to do things, right up into his senior years. He was never satisfied, never contented with an easy way; there was always a better way, a new way. Behind this restlessness and the urge to improve was the steady and encouraging support of his wife.

And if there is one more thing to be said, it is about his own approach to his own final illnesses. To say that he was the perfect patient would be to say something pretty futile; to say that he showed no fear would be true; to say that he kept working and living and playing sport until his third occlusion would perhaps not be outstanding or remarkable, because any one of us could, if we were lucky, be a good patient and a brave patient. But the point is that not many of us could have even survived what he went through. He was back in the ring again for two knockdown counts, but he was not counted out, because he saved himself. His entire body nursed itself, wasting no energy on fear or resistance, resting itself to recover from the near fatal blow, certain neither of recovery nor of defeat, but accepting what had come to him. I see him there, no prey to the thousand wasteful thoughts which must come to most men at that time, eliminating all himself so that his mighty fighting heart could go on beating; the boxer, down, waiting in the knowledge that waiting was the thing to do, then up at nine.

His final fight was no fight at all—taken by his Maker suddenly, as a strong man should go. Let us not forget him.

HARRY HERBERT LEE.

We are indebted to Dr. B. A. Cook for the following account of the career of the late Dr. Harry Herbert Lee.

I knew the late Harry Herbert Lee for a lifetime. Indeed, both he and his father, the late Timothy Lee, were our family doctors at Wollongong, where I was born, and the late Harry Lee treated me many times as a youth. The last time I saw him, he asked me to write his obituary. The same afternoon, a few months before he died, he had won a clay-pigeon shoot, and he seemed to be so well and in such good spirits that I said it would be more likely that he would be alive to do the obituary for me. But he was very serious, and these few lines are in fulfilment of that promise.

He was born in 1876, in Thame, Oxfordshire, and with his father and two sisters and a brother he came to Australia in 1883. They landed in Western Australia where his father thought of a land career, but, changing his mind, came to Wollongong and commenced practice there in 1885. The Sydney to Wollongong railway was



then under construction, and the late Dr. Timothy Lee looked after the construction gangs. Dr. Harry Lee graduated M.B., Ch.M. at the University of Sydney in 1901, and was admitted as a F.R.A.C.S. in 1931. He was a resident at St. Paul's College, and was prominent in sport, representing the University in athletics and rowing. He continued his sporting interests when he commenced practice in Wollongong, playing cricket for many years. He was in fact a very good batsman, and an outstanding gun shot. Additionally he fished trout, and was a member of the Sydney Gun Club for many years. He was for many years an alderman of Wollongong Municipality, and active in all district activities. He was proud of being one of the district's first motorists, and he drove a car till the day he died.



He was active in local medical politics, and was one of the foundation members of the South-Eastern Medical Association, and its president and secretary for many years. He continued to attend meetings until his death. He had been, many years ago, a delegate to the quarterly meetings of the Council of the New South Wales Branch of the British Medical Association, and there, as elsewhere, was noted as a very forthright debater, and left no doubt as to where he stood on questions being discussed.

After graduation, he went overseas for post-graduate study at Dublin and Birmingham, and was well equipped as a sound general practitioner when he started in Wollongong in 1902. His advent coincided with the dreadful Kambelia mine disaster, when 92 were killed and many gravely injured. Harry Lee treated these men. He was one of the first general practitioners in the country to undertake major surgery, and as far back as 57 years ago his surgical practice ranged through the three cavities of the body. He had a just reputation as a surgeon. He married Nora Margaret Darvall-Barton in 1909, and she, together with a son and daughter, survives him.

Harry Herbert Lee will be missed on the South Coast, where his name was a household word for generations. He was an example of what we like to think a good country general practitioner should be—well taught, versatile, adept at meeting any emergency whether in medicine, midwifery or surgery, and a father-confessor and confidant to his numberless patients and friends. Long hours were the rule and low capitation fees the reward in his early days. For as little as sixpence a week the industrial medical officers on the South Coast were expected

to provide all medical and surgical care for a man, his wife and family (usually pretty numerous, too, in those days), but, as a great concession, he could charge one guinea for a confinement. Confinements were usually done in the home, with the aid of a neighbour or the local "Sairy Gamp", when one was available. Relays of horses had to be ready to take Harry Lee over the rough mountain tracks which were called roads in that period of our development, and he often told me that he seldom had an undisturbed night's rest. Conditions were tough, and the doctor had to be tougher. Especially had he to be tough to deal with the very militant miners. For sixpence a week they thought they owned the doctor, and Harry Lee was not slow or unconvincing when he had to disabuse them of these views. Indeed, if physical arguments were required, he knew how to use those, too.

Harry Lee was a man of rugged constitution and rugged character, who did not compromise when he thought he was right. Nor did he suffer fools gladly. He has joined the Great Majority, following other outstanding general practitioners of his time, like the late Charles Palmer and John Kerr. They have blazed a trail and fought for the improvements in the conditions and remuneration of industrial medical officers which are now being enjoyed by the younger generation. With his father he maintained for 74 years a continuous practice, which must be a rare achievement. To his sorrowing wife and family I extend my deepest sympathy.

#### MARTHA ISABEL GARVICE.

We are indebted to Dr. Marjory Little for the following account of the career of the late Dr. Martha Isabel Garvice.

Dr. Martha Isabel Garvice (*née* Ormiston), who died on July 23, 1958, was born in Albury, one of the youngest of a large family. Her education at the Albury Grammar School and the University of Sydney was financed by an elder brother, and she graduated in medicine in 1907. She obtained hospital experience at the Royal Hospital for Women, Paddington, and at the Brisbane Children's Hospital, and in 1911 was appointed to the Department of Education in Tasmania, where she remained till 1914.

Being in England at the outbreak of war, she offered her services to the War Office, and the account of her reception there always afforded entertainment to her listeners. The suggestion that anyone so small and fragile-looking could contribute in any capacity to the war effort filled her interviewers with ill-concealed amusement, and she was strongly advised to seek employment elsewhere. Little did they guess the courage and power of organization concealed in the youthful applicant before them.

In August, 1914, Dr. Ormiston was appointed by the Red Cross as medical officer to a unit of V.A.D.'s sent over to Ostend to care for the refugee women and children, whose only shelter was the bathing boxes on the beach. Later the Belgian Red Cross placed the Kursaal at the disposal of the unit; but as soon as beds and equipment were installed, Belgian wounded poured in, after the fall of Liège and Namur, and the refugees remained on the beach, while Dr. Ormiston and the V.A.D.'s and one trained sister cared for the wounded as best they could until the arrival of German troops after the fall of Ostend. Dr. Ormiston made her way to Holland and thence to England, but returned to work in the Queen of the Belgians' Hospital at La Taune, where she remained till the district was flooded in an attempt to stem the German advance.

In 1915 Dr. Ormiston joined a British unit proceeding to Montenegro, and with the help of a Turkish prisoner-of-war doctor organized a hospital at Podgaritz, which attempted to stem the time of typhus and dysentery so prevalent in the prisoner-of-war camps. For her work here she was decorated with the Order of Danilo and the Montenegrin Royal Red Cross. After the fall of Montenegro and Serbia, Dr. Ormiston went to Egypt, and worked in a British convalescent hospital at Luxor. From there she proceeded to France, and joined the staff of the Anglo-American hospital at Limoges.

After the Armistice Dr. Ormiston returned to Egypt, and was appointed Assistant Medical Inspector of Girls' Schools. She was later promoted to the post of Principal Medical Officer for Girls' Schools for the whole of Egypt, and remained in this service till her retirement in 1945.

During the Second World War she worked with the British Air Raid Precaution Unit, and helped in the



organization of camps on the Red Sea, where thousands of refugees from Yugoslavia, Greece and Poland were collected. For this work she was decorated with the Order of the Nile by the King of Egypt and created an Officer of the Most Excellent Order of the British Empire by the King of England.

In 1920 Dr. Ormiston married Major Chudleigh Garvice, D.S.O., O.B.E., who died of malignant endocarditis eleven months later. She returned to live in Australia in 1946.

Isabel Garvice was the only woman in her year during her medical course, and thoroughly enjoyed the friendship of her male colleagues. Her appearance belied the strength of character and courage she possessed and demonstrated in all she undertook. She even succeeded in making a garden in the desert surrounding her Egyptian home, which one would like to think remains as her memorial in the country she served so well for so many years.

# Correspondence.

## CANCER, A DISEASE OF THE NERVOUS SYSTEM.

SIR: My old friend Arthur D'Ombrian should know better than to misquote poetry even if he does not name the poet he injures. Shakespere (who, in his letter, becomes "a man who had a much greater intellect than I possess") wrote:

The fault, dear Brutus, is not in our stars  
But in ourselves, that we are underlings.

He did not write:

Our faults are not in our stars, but in ourselves.

You may say, at first, that the only real mistake is the omission of "dear Brutus". But look at the difference in meaning between "The fault is not in our stars" and "Our faults are not in our stars".

Yours, etc.,

185 Macquarie Street,  
Sydney.  
September 18, 1959.

M. P. SUSMAN.

## A NEW DRUG IN RELIEF OF ANGINA PECTORIS.

SIR: I am greatly disturbed by the possibility that harm may follow the publication of the paper "A New Drug in Relief of Angina Pectoris: A Preliminary Report", in the Journal, September 12, 1959, pages 358-360. In this paper Dr. L. N. Gollan states that iproniazid ("Marsilid", Roche) "appears to be so effective in the relief of pain of angina that it will almost certainly become widely used for this condition".

Dr. Gollan mentions that he was advised "that 30% of patients taking the drug have a raised transaminase level", but fails to mention that patients have died from hepatic necrosis and many more have had severe morbidity as a direct effect of iproniazid on their livers. Kahn and Perez<sup>1</sup> report nine patients with jaundice associated with the administration of iproniazid, and two of them died. They comment: "In retrospective analysis the occurrence of the hepatitis could not be predicted." Pare and Sandler<sup>2</sup> believe it is safer to assume that the raised transaminase levels are directly associated with hepatic damage. Acute hepatic necrosis and death has occurred after the administration of iproniazid in Australia to my personal knowledge. It is recognized that iproniazid, like isoniazid, causes liver

<sup>1</sup> Amer. J. Med., 1958, 25: 898.

<sup>2</sup> Lancet, 1959, 1: 283.

damage in animals and the essential difference between the two lies in the lethal dose.

It is my opinion, and I venture to suggest one that is shared by most cardiologists and psychiatrists, that iproniazid ("Marsilid") is far too dangerous a drug to be prescribed. I am unable to justify its use in patients with angina pectoris.

I strongly advise medical practitioners to avoid using iproniazid even when the transaminase level is normal.

Yours, etc.,

C. R. B. BLACKBURN,  
Professor of Medicine.

University of Sydney.  
September 18, 1959.

## TUBERCULOSIS IN MIGRANTS.

SIR: During an investigation I am carrying out into chronic chest illnesses, I was interested to notice, in going through the figures for this hospital, the present incidence of tuberculosis in migrants in relation to the years they have spent in Australia.

Between August, 1951, and August, 1959, 1058 patients were admitted. Of these, 285 were migrants, and the length of time in Australia is shown by Table I in relation to the years of admission.

Table II shows the age distribution of the patients.

Two features are obvious from these series of figures. One is the large number of admissions during the past three years of migrants who have been in the country between eight and ten years—that is, who had migrated between 1947 and 1951. There were 35 such patients, and of these no less than 16 came from Eastern Europe (Poland, Yugoslavia, Ukraine and Russia), and only four from the United Kingdom. Put in another way, 58 patients between 1951 and 1959 had migrated from Eastern Europe during the previous ten years and 41 from Great Britain. Seventeen (nearly 30%) of the Eastern European migrants, but only four (10%) of the British migrants had been in Australia between eight and ten years, although between 1947 and 1951, the period in question, British migrants had constituted well over half the total number of migrants.

This differing incidence suggests the operation of factors which are possibly more related to conditions preceding migration than to those following it, and a further breakdown of the admission figures for these eight years points to the fact (although numbers are small) that, throughout, there has probably been a disproportionately larger number of patients admitted, who had migrated between 1947 and 1951 from these countries.

I hope to present a firm conclusion in due course from an analysis of material from other sources; but it is tempting to believe, when it is recalled that the incidence of tuberculosis in Eastern Europe during the war was phenomenally high, that, in fact, recrudescence of lesions acquired at that time is playing a major part. If this is so, it can be anticipated that during the coming years there will be further similar cases in this group, although in gradually declining numbers.

The second important feature is the increased number of patients admitted since 1957, who have been here less than two years (only three of them were from Hungary), and 50% of patients who are migrants of less than four years' standing are under 30 years of age. There has been a pronounced fall in the incidence of tuberculosis in Europe since the war and a corresponding fall in the number of persons who are tuberculin-positive by the time they reach adult life. The possibility must arise that, in a certain number of cases, young adult migrants may not have acquired their primary infection before they reach Australia, and that it is in these that the conditions of

TABLE I.

Year of Admission to Hospital.	Total Number of Admissions.	Number of Migrants Admitted.	Years in Australia.						
			0 to 1.	2 to 4.	5 to 7.	8.	9.	10.	11 and Over.
1951 to 1953	327	50	9	25	—	—	—	—	16
1954 to 1956	379	104	9	27	24	2	1	—	41
1957 to 1959	352	131	19	22	32	17	13	5	23

migrant life and the necessity of establishing themselves in the new country predispose to the progression of a primary lesion acquired, possibly, after moving from the small towns of their own country to the large Australian capital cities.

As X-ray reexamination of migrants is compulsory, it may be possible that, if B.C.G. were offered as part of the

TABLE II.

Age. (Years.)	Australian Born.	All Migrants.	Years in Australia.			
			0 to 4.	5 to 7.	8 to 10.	11 and Over.
15 to 19 ..	56	15	10	5	—	—
20 to 29 ..	162	82	47	14	7	14
30 to 39 ..	179	72	32	20	12	8
40 and over	876	116	22	17	19	58

same programme to migrants under a certain age who were tuberculin-negative, as it is to certain other groups of the population, such expenditure might be justified, in view of the cost to the Commonwealth involved in each case of tuberculosis, in treatment, allowances and loss of working capacity.

Yours, etc.,

Morris Hospital,  
Adelaide, South Australia.  
August 31, 1959.

S. GILLIS.

## Medical Matters in Parliament.

### HOUSE OF REPRESENTATIVES.

THE following extracts from *Hansard* relate to the proceedings of the House of Representatives on August 25, 1959.

#### Pensioner Medical Services.

MR. THOMPSON: I address to the Minister for Health a question the first part of which relates to Rastinon tablets, which are used in place of the usual injections for the treatment of diabetes. I know that a request has been made to the Minister that these tablets be placed on the free list of drugs. If it was not possible to permit it for the public generally, has it been found possible to allow pensioners for whom these tablets are prescribed by their doctors to obtain them free?

Also, I ask the Minister to make it clear, if it is so, that, under the proposed alterations of the pharmaceutical benefits scheme, pensioners will not be called upon to pay for any medicines that have been prescribed free in the past.

DR. DONALD CAMERON: The answer to the first of the honorable gentleman's questions is that, on the advice of the Pharmaceutical Benefits Advisory Committee, Rastinon has now been placed on the list under the Pensioner Medical Scheme; so that it is now available free to pensioners. It is not at present a general benefit.

MR. THOMPSON: Is it available to all pensioners or only those with a medical card?

DR. DONALD CAMERON: To those with a medical card. The answer to the second question is that the new proposals announced by the Treasurer in his Budget speech leave the present position of pensioners unaffected.

#### Uniform Poisons Legislation.

MR. WHITLAM asked the Prime Minister, upon notice:

1. Has he written to the Premiers, pursuant to the resolutions of the National Health and Medical Research Council in May, 1959, urging the adoption of uniform poisons legislation?

2. If so, what replies has he received?

MR. MENZIES: Before writing to the Premiers on this matter I have been awaiting information on certain proposed Victorian legislation relating to poisons which could have well affected the terms of my request to the States. This information has recently become available. I am now in a position to make definite suggestions to all Premiers and will do so in the very near future.

### SENATE.

THE following extracts from *Hansard* relate to the proceedings of the Senate on August 25, 1959.

#### Medical Identity Cards.

SENATOR O'BYRNE asked the Minister representing the Minister for Health, upon notice:

1. Is the Minister acquainted with a proposal put forward in Tasmania by the Minister for Health, Dr. Gaha, that Tasmanians carry a medical identity card bearing a record of immunization, inoculations, sensitivity and allergy to sulfa and other drugs, information concerning sufferers from diabetes, epilepsy and hæmophilia, blood group, and T.B. and cancer X-rays?

2. Has a similar proposition been considered for residents of the Australian Capital Territory and other territories under the Commonwealth's jurisdiction?

3. If so, will the Minister also take steps to initiate a uniform medical identity card that would be acceptable to all States, so that code number and other references on the cards could be readily interpreted by any medical officer in any State?

SENATOR HENTY: The Minister for Health has now furnished the following replies:

1. Yes—it has been discussed by the National Health and Medical Research Council and by the College of General Practitioners.

2 and 3. No—for the reasons that—(a) although this practice has been used for some years by public hospitals for patients attending diabetes clinics and by the Red Cross Society for blood donors, it has been found that after the novelty wears off, such persons forget to carry their cards; (b) although the idea, in theory, is a good one, its implementation would require some elements of compulsion and control to be effective.

## Medical Practice.

### THE MEDICAL PRACTITIONERS SUPERANNUATION FUND.

THE following is the trustee's report together with the report of the auditor for The Medical Practitioners Superannuation Fund for the year ended June 30, 1959.

#### Trustees' Report.

Your Trustees have pleasure in reporting satisfactory progress of the Fund during the past financial year.

Following the approval of members, the Trust Deed was amended to provide the following:

1. Deceased Members Benefits would not form part of his dutiable estate.
2. A limitation on the amount of Annual Contributions as follows:  
44 years of age and under ..... £300  
Over 44 but less than 55 years ..... £500  
55 years and over ..... £1000
3. Only self-employed Medical Practitioners could become or remain members of the Fund.
4. New members if under 50 years on joining may nominate age 60 instead of 65 to receive benefits.
5. Maximum amount of benefits not to exceed £25,000.

By virtue of their age and amount of their annual contributions some members could attain this limit before the retiring age, and your Trustees will be most careful to ensure that no further contributions will be accepted from a member when it is seen that his contributions account is such that it will attain that limit without further contributions.

As all members did not vote, the Trustees did not proceed with the scheme for temporary reducing assurance.

Members who desire this facility may arrange same with any leading Life Assurance Company on the same terms and conditions.

In response to several enquiries your Trustees have advised that a member is not obliged to retire when he reaches the required age, and under Clause 8 (1) (d) may allow his benefit to remain in the Fund, after which he may withdraw same by giving one month's notice, or it will be paid on his actual retirement or death.

The membership and the Fund have expanded during the year, contributions being the highest yet received.

It is pleasing to note that funds now exceed £100,000. Investments are mainly in the highest form of security, viz., Registered First Mortgage Debenture Stock spread over approximately thirty (30) leading authorities. A 5% return is again compounded to your account, copy of which is enclosed.

Your Trustees who, as members, are privileged to work for the Fund in an honorary capacity, feel that thanks and appreciation should be expressed to the Secretary, Mr. F. S. Scorer, Office Staff and others who made sacrifices both financial and otherwise to ensure the success of the Fund.

The Auditor's Report is appended hereto for the information of members.

(Signed) A. J. OSTINGA,  
Chairman.

O. J. ELLIS  
K. JOHNS  
A. J. OSTINGA  
Trustees

#### Report of the Auditor.

I have examined the books of Account and supporting vouchers of the Medical Practitioners Superannuation Fund for the twelve (12) months ended 30th June, 1959, together with securities held as at that date.

I have obtained all the information and explanations I have required.

I have examined the Balance Sheet of the Fund as at 30th June, 1959, showing:

Contributors' Funds .. .. .	£109,904 17 3
Represented by:	
Investments .. .. .	105,883 0 1
Cash at Bankers .. .. .	4,021 17 2
	<u>£109,904 17 3</u>

In my opinion, such Balance Sheet is properly drawn up so as to exhibit a true and correct view of the state of the affairs of the Fund according to the best of my information and the explanations given to me and as shown by the books of the fund.

D. LOUDON, F.C.A. (Aust.),

Chartered Accountant (Aust.),  
Registered under the Public Accountants  
Registration Act, 1945, as amended.

Newcastle,  
24th July, 1959.

## Notes and News.

### Fifth International Congress of Gerontology.

The International Association of Gerontology will hold its fifth International Congress of Gerontology in San Francisco on August 7 to 12, 1960. The basic purpose of the Association is to promote the discovery, development and dissemination of systematic knowledge concerning the aging process and the aging individual, as well as social changes and adaptations brought about by aging populations. To that end, all papers submitted should represent reports of original research in the field or systematic evaluations of operating programmes. Papers which merely describe programmes or practices should be of such quality that they would be acceptable for the programme of any professional or scientific society. Abstracts of papers to be presented must not exceed 250 words in length, and should be typewritten in English and double spaced, with ample margins on all sides. No tabular material may be included in abstracts. Four copies of each abstract should be submitted not later than December 15, 1959, to the appropriate section of the Congress, as follows: (i) biological sciences: Dr. Nathan W. Shock, Chief, Gerontology Branch, Baltimore City Hospital, Baltimore, Maryland, U.S.A.; (ii) clinical medicine: Dr. Herman T. Blumenthal, The Jewish Hospital, 216 South Kingshighway, St. Louis, Missouri, U.S.A.; (iii) psychology and the social

### DISEASES NOTIFIED IN EACH STATE AND TERRITORY OF AUSTRALIA FOR THE WEEK ENDED AUGUST 29, 1959.<sup>1</sup>

Disease.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Northern Territory.	Australian Capital Territory.	Australia.
Acute Rheumatism .. .. .	..	3(2)	3(2)	..	1	..	..	..	7
Amoebiasis .. .. .	..	..	..	..	..	..	..	..	..
Ancylostomiasis .. .. .	..	..	..	..	..	..	5	..	5
Anthrax .. .. .	..	..	..	..	..	..	..	..	..
Bilharziasis .. .. .	..	..	..	..	..	..	..	..	..
Brucellosis .. .. .	..	..	..	..	1	..	..	..	1
Cholera .. .. .	..	..	..	..	..	..	..	..	..
Chorea (St. Vitus) .. .. .	..	..	..	..	..	..	..	..	..
Dengue .. .. .	..	..	..	..	..	..	..	..	..
Diarrhoea (Infantile) .. .. .	8(6)	8(8)	1	..	..	..	1	8	21
Diphtheria .. .. .	1	..	..	..	1(1)	..	..	..	2
Dysentery (Bacillary) .. .. .	..	..	1	..	6	..	1	..	8
Encephalitis .. .. .	..	..	..	..	..	..	..	..	..
Filaria .. .. .	..	..	..	..	..	..	..	..	..
Homologous Serum Jaundice .. .. .	..	..	..	..	..	..	..	..	..
Hydatid .. .. .	..	..	..	..	..	..	..	..	..
Infective Hepatitis .. .. .	88(15)	34(16)	16(15)	8(5)	2(1)	2	1	..	101
Lead Poisoning .. .. .	..	..	..	..	..	..	..	..	..
Leprosy .. .. .	..	..	..	..	1	..	1	..	2
Leptospirosis .. .. .	..	..	1	..	..	..	..	..	2
Malaria .. .. .	..	..	..	..	..	..	..	..	..
Meningococcal Infection .. .. .	1	3(2)	..	..	..	..	..	..	4
Ophthalmia .. .. .	..	..	..	..	..	..	..	..	..
Ornithosis .. .. .	..	..	..	..	..	..	..	..	..
Paratyphoid .. .. .	..	..	..	..	..	..	..	..	..
Plague .. .. .	..	..	..	..	..	..	..	..	..
Poliomyelitis .. .. .	2(1)	..	..	..	1	..	..	..	8
Puerperal Fever .. .. .	..	..	..	..	..	..	..	..	..
Rubella .. .. .	..	28(9)	..	4(2)	1(1)	..	..	..	31
Salmonella Infection .. .. .	..	..	..	..	..	..	..	..	..
Scarlet Fever .. .. .	10(5)	24(13)	..	..	1(1)	..	..	..	35
Smallpox .. .. .	..	..	..	..	..	..	..	..	..
Tetanus .. .. .	..	..	..	..	20	..	11	..	31
Trichinosis .. .. .	..	..	..	..	..	..	..	..	..
Tuberculosis .. .. .	14(9)	16(10)	18(5)	14(11)	8(3)	2	..	1	73
Typhoid Fever .. .. .	..	..	..	..	..	..	..	..	..
Typhus (Flea-, Mite- and Tick-borne) .. .. .	..	..	..	..	..	..	..	..	..
Typhus (Louse-borne) .. .. .	..	..	..	..	..	..	..	..	..
Yellow Fever .. .. .	..	..	..	..	..	..	..	..	..

<sup>1</sup> Figures in parentheses are those for the metropolitan area.



sciences: Clark Tibbitts, Special Staff on Aging, Department of Health, Education and Welfare, Washington 25, D.C., U.S.A.; (iv) social welfare: Louis Kuplan, P.O. Box 2103, Sacramento 10, California, U.S.A.

The Congress has been granted funds which will make it possible to offer some financial assistance to those whose papers are accepted for presentation and who will require such assistance. English will be the official language for the Congress.

Registration well in advance of the opening date is desirable. The fee for registration is \$25 up till May 31, 1960, and \$30 thereafter. The necessary registration forms may be obtained on application to the President of the Congress, Louis Kuplan, at the address given above. Inquiries relating to commercial or scientific exhibits should be addressed to Dr. Leo Gitman, Chairman, Committee on Exhibits, Brooklyn Home for the Aged, Howard and Dumont Avenues, Brooklyn 12, New York, U.S.A.

### Post-Graduate Work.

#### THE POST-GRADUATE COMMITTEE IN MEDICINE IN THE UNIVERSITY OF SYDNEY.

##### Week-end Course in "Art of Teaching".

The Post-Graduate Committee in Medicine in the University of Sydney announces that the second week-end course on "Art of Teaching" to be held during 1959 will take place in the Scot Skirving Lecture Theatre, Royal Prince Alfred Hospital, on Saturday, November 21, from 10 a.m. to 5 p.m., and on Sunday, November 22, from 9 a.m. to 12.30 p.m. The fee for attendance is £11s., and a detailed programme will be available shortly.

As applications will be limited, enrolment should be made not later than November 6. Application, enclosing remittance, should be made to the Course Secretary, The Post-Graduate Committee in Medicine, 131 Macquarie Street, Sydney. Telephones: BU 4497-8. Telegraphic Address: "Postgrad Sydney."

### Australian Medical Board Proceedings.

#### QUEENSLAND.

The following has been registered, pursuant to the provisions of Section 19 (1) (d) and 19 (2) of *The Medical Acts, 1939 to 1955*, of Queensland: Lalor, Michael James, M.B., B.S., 1951 (University Ireland).

The following have been registered, pursuant to the provisions of Section 19 (1) (a) (c) of *The Medical Acts, 1939 to 1955*, of Queensland: Maguire, Robert Thomas Francis, M.R.C.S., England, 1958, L.R.C.P., London, 1958; Oen, Eng-Yat, M.B., B.S., 1958 (Univ. Sydney).

The following have been registered, pursuant to the provisions of Section 19 (1) (a) (d) of *The Medical Acts, 1939 to 1955*, of Queensland: Woolford, Hartwell Bert, M.B., B.S., 1933 (Univ. Sydney); Brown, William Ashton Robert, M.B., B.S., 1955 (Univ. London); Lloyd, Henry Martyn, B.M., B.Ch., 1947 (Univ. Oxford), M.R.C.P., London, 1949, Ph.D., London, 1952, D.M., Oxford, 1958.

The following additional qualifications have been registered: Aitken, Ronald Edward, F.R.A.C.S., 1959; Kynaston, Bruce, M.C.R.A., 1958.

### Nominations and Elections.

The undermentioned has applied for election as a member of the Victorian Branch of the British Medical Association:

Redmond, Herbert Johnston Granville, M.B., B.Ch., B.A.O., 1948 (Q.U., Belfast), 30 Halyburton Avenue, Warragul, Victoria.

### Deaths.

The following death has been announced:

HOWDEN.—Reginald Howden, on August 29, 1959, at Gardenvale, Victoria.

### Diary for the Month.

- OCTOBER 6.—New South Wales Branch, B.M.A.: Council Quarterly.
- OCTOBER 7.—Victorian Branch, B.M.A.: Branch Meeting.
- OCTOBER 8.—New South Wales Branch, B.M.A.: Public Relations Committee.
- OCTOBER 9.—Queensland Branch, B.M.A.: Council Meeting.
- OCTOBER 9.—Tasmanian Branch, B.M.A.: Branch Council.
- OCTOBER 13.—New South Wales Branch, B.M.A.: Executive and Finance Committee, Organization and Science Committee.

### Medical Appointments: Important Notice.

MEDICAL PRACTITIONERS are requested not to apply for any appointment mentioned below without having first communicated with the Honorary Secretary of the Branch concerned, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

*New South Wales Branch* (Medical Secretary, 135 Macquarie Street, Sydney): All contract practice appointments in New South Wales.

*South Australian Branch* (Honorary Secretary, 80 Brougham Place, North Adelaide): All contract practice appointments in South Australia.

### Editorial Notices.

ALL articles submitted for publication in this Journal should be typed with double or treble spacing. Carbon copies should not be sent. Authors are requested to avoid the use of abbreviations, other than those normally used by the Journal, and not to underline either words or phrases.

References to articles and books should be carefully checked. In a reference to an article in a journal the following information should be given: surname of author, initials of author, year, full title of article, name of journal, volume, number of first page of article. In a reference to a book the following information should be given: surname of author, initials of author, year of publication, full title of book, publisher, place of publication, page number (where relevant). The abbreviations used for the titles of journals are those of the list known as "World Medical Periodicals" (published by the World Medical Association). If a reference is made to an abstract of a paper, the name of the original journal, together with that of the journal in which the abstract has appeared, should be given with full date in each instance.

Authors submitting illustrations are asked, if possible, to provide the originals (not photographic copies) of line drawings, graphs and diagrams, and prints from the original negatives of photomicrographs. Authors who are not accustomed to preparing drawings or photographic prints for reproduction are invited to seek the advice of the Editor.

Original articles forwarded for publication are understood to be offered to THE MEDICAL JOURNAL OF AUSTRALIA alone, unless the contrary is stated.

All communications should be addressed to the Editor, THE MEDICAL JOURNAL OF AUSTRALIA, The Printing House, Seamer Street, Glebe, New South Wales. (Telephones: MW 2651-2-3.)

Members and subscribers are requested to notify the Manager, THE MEDICAL JOURNAL OF AUSTRALIA, Seamer Street, Glebe, New South Wales, without delay, of any irregularity in the delivery of this Journal. The management cannot accept any responsibility or recognize any claim arising out of non-receipt of journals unless such notification is received within one month.

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